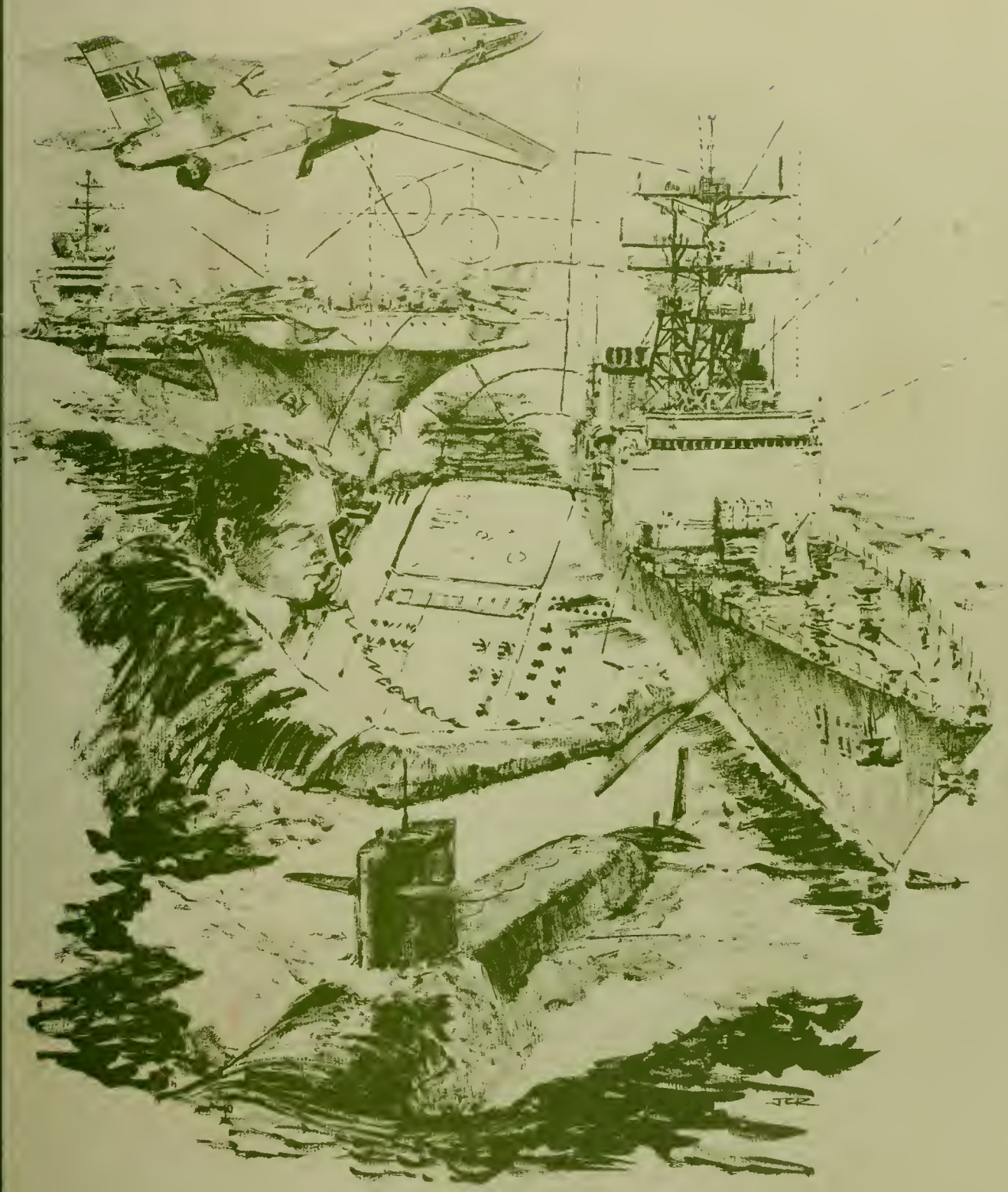
Ships, Aircraft and Weapons



of the United States Navy

Submit requests for additional copies of NAVSO P-3564 (Rev. 8/84) on DOD Single Line Item Requesition, DD 1348 to the Commanding Officer, U.S. Naval Publications and Forms Center, Philadelphia, PA 19120, citing Stock No. 0515-LP-945-6006.

DEPARTMENT OF THE NAVY
OFFICE OF INFORMATION
WASHINGTON, D.C. 20350

IN REPLY REFER TO

AUGUST 1984

SHIPS, AIRCRAFT AND WEAPONS OF THE UNITED STATES NAVY

This booklet presents a series of fact sheets on significant Navy weapons systems. It is divided into five general categories: ships, fixed-wing aircraft, helicopters, missiles and weapons. The fact sheets contain unclassified information about each system.

This material was compiled by the staffs of the Office of Information and the Naval Material Command, in coordination with the Deputy Chiefs of Naval Operations for Air, Surface and Submarine Warfare. The information contained herein may be used in internal information programs, command brochures, briefings, speeches, and in response to local media queries. Comments and suggestions may be addressed to the Chief of Information, Department of the Navy, Washington, D.C. 20350.

JACK A. GARROW
Commodore, U.S. Navy
Chief of Information

INDEX

CVN-68

NIMITZ Class Nuclear Powered Aircraft Carrier

Mission: Support and operate aircraft that engage in attacks on airborne, afloat, and ashore targets which threaten our use of the sea; and engage in sustained operations in support of other forces.

Description: NIMITZ Class carriers have two reactors and nuclear fuel for 15 years of normal carrier operations, the equivalent of more than 11 million barrels propulsion fuel oil. The NIMITZ Class carriers are capable of supporting a modern air wing of about 95 planes. These new ships are the result of 50 years of evolution in aircraft carrier design.

Characteristics:

Length:	1,092 ft
Extreme beam:	252 ft
Displacement:	93,405 tons (combat load)
Flight deck area:	4½ acres
Accommodations:	6,280
Aircraft elevators:	four
Catapults:	four
Speed:	in excess of 30 knots (kts)

Comments: The NIMITZ class includes six carriers. USS NIMITZ (CVN-68), USS DWIGHT D. EISENHOWER (CVN-69), and USS CARL VINSON (CVN-70) have been delivered; USS THEODORE ROOSEVELT (CVN-71) was authorized in the FY-80 Defense Budget, and USS ABRAHAM LINCOLN (CVN-72) and USS GEORGE WASHINGTON (CVN-73) were authorized in the FY-83 Defense Budget.

BB-61

IOWA Class Battleship

Mission: Conduct prompt and sustained combat operations at sea, worldwide, in support of national interests; operate as an element of a carrier battle group or amphibious group; in areas of lesser threat, be capable of surface action group operations with appropriate Anti-Submarine and Anti-Air Warfare escort ships.

Description: The modernized IOWA Class are being reintroduced into the Fleet with major renovations in communications, electronic warfare, habitability, and weapons systems added to the extremely survivable battleship hull.

Characteristics:

Length:	887 ft.
Beam:	108 ft.
Displacement:	58,000 tons
Propulsion:	8,600 psi boilers
Speed:	Over thirty knots
Accommodations:	123 Officers
	1,699 Enlisted
Armament:	HARPOON Missiles
	TOMAHAWK Missiles
	9 16-inch guns
	12 5"/38 cal guns
	CIWS-4 mounts
	Helicopter capability

Comments: The first modernized battleship, USS NEW JERSEY (BB-62), was recommissioned 28 December 1982. The second, USS IOWA (BB-61), was recommissioned in April 1984. The third, MISSOURI (BB-63), is scheduled for recommissioning in mid-1986.

SSBN-726

OHIO Class Trident Strategic Missile Submarine

Mission: Enhance the present United States undersea strategic missile platform. The OHIO class strategic submarine will ensure that the United States continues to maintain a credible, survivable deterrent to nuclear war into the 21st century.

Description: The TRIDENT system consists of three principal elements; a nuclear powered submarine with 24 missile tubes, a strategic weapons system, and an integrated logistic support system.

The OHIO class submarine is capable of patrolling and transiting, and evading enemy search forces, at higher speeds than previous strategic missile submarines. It is highly survivable due to incorporation of the latest developments in submarine quieting, mobility and self defense.

Characteristics:

Length:	560 ft
Beam:	42 ft
Displacement:	18,700 tons (submerged)
Draft:	36 ft 6 in
Propulsion:	Steam turbine, water cooled reactor
Accommodations:	164
Missiles:	24 TRIDENT missiles
Torpedoes:	MK-48 (4 torpedo tubes)

Comments: The OHIO class submarine design considered all aspects of survivability and capability required in a sea-based deterrent system. The ship has twenty-four missile tubes which have sufficient space for follow-on design missiles. Growth room has also been provided in the submarine so that future improvements affecting survivability and effectiveness can be incorporated.

Naval Submarine Base, Bangor, Washington provides an integrated tender-ashore support capability for the strategic weapons and submarine systems, and a centralized crew training complex. In addition, the Naval Submarine Base, Kings Bay, Georgia, which presently supports POSIEDON SSBNs converted to carry the TRIDENT I missile, will be the base for the second squadron of OHIO-class submarines.

The lead ship, USS OHIO (SSBN-726) was delivered to the Navy in 1981. Since that time, the Navy has accepted delivery of USS MICHIGAN (SSBN-727), USS FLORIDA (SSBN-728) and USS GEORGIA (SSBN-729). Seven additional OHIO class submarines have been authorized and are presently under construction by Electric Boat Division of General Dynamics.

SSN-688

LOS ANGELES Class Nuclear Powered Attack Submarine

Mission: Destroy enemy ships, primarily submarines, in order to prohibit the employment of such forces against United States or allied ships.

Description: LOS ANGELES class submarines are characterized by high submerged speed and improved sensor and weapons systems. They provide an effective counter to the new classes of Soviet high speed submarines being built. They are armed with MK-48 anti-submarine and anti-ship torpedoes, HARPOON anti-surface ship cruise missiles, SUBROC anti-submarine warfare missiles and TOMAHAWK cruise missiles.

In comparison with earlier SSN classes, these submarines are quieter, faster, and more capable. Other improvements include significantly advanced sensor systems, improved noise reduction techniques, and an improved weapons system.

Characteristics:

Length:	360 ft
Beam:	33 ft
Displacement:	6,900 tons (submerged)
Draft:	32 ft
Propulsion:	Steam turbine powered by pressurized water reactor
Accommodations:	102
Armament:	MK-48 torpedo (4 tubes amidships) SUBROC HARPOON Missiles TOMAHAWK Missiles

Comments: LOS ANGELES class submarines are operational in both the Atlantic and Pacific Fleets. Relative to earlier classes, fleet operations have confirmed their marked improvements in all aspects of attack submarine operational capabilities. 25 of these submarines have been delivered to the Navy and an additional 21 are under construction or authorized. They are being built by Electric Boat Division of General Dynamics Corp., Groton, Connecticut, and Newport News Shipbuilding and Drydock Company, Newport News, Virginia.

CG-47

TICONDEROGA Class Cruisers

Mission: Destroy enemy aircraft, missiles, submarines and surface ships in order to prohibit the employment of such forces against U.S. forces. CG-47 Class ships will normally be assigned to Carrier Battle Groups or Surface Action Groups.

Description: TICONDEROGA Class cruisers, built on the SPRUANCE (DD 963) hull, have been fitted with the AEGIS Combat System. The AEGIS System with its phased array, SPY-1A radar and sophisticated combat systems provide the area coverage, ECM resistance and fast reaction time required to effectively combat the anti-ship cruise missile threat. This class is capable of conducting AAW, ASW, and ASUW simultaneously.

Characteristics:

Length:	563 ft
Beam:	55 ft
Displacement:	9,600 tons
Propulsion:	4 LM 2500 gas turbines
Speed:	Over 30 knots
Accommodations:	372

Armament:	STANDARD Missiles
	ASROC
	2 5"/54 Caliber MK-45 guns
	MK-46 Torpedoes
	HARPOON Missiles
	PHALANX CIWS
	2 LAMPS Helicopters

Comments: Thirteen TICONDEROGA Class cruisers have been authorized and appropriated by Congress through FY-84. USS TICONDEROGA (CG-47) was commissioned in January 1983. YORKTOWN (CG-48) will be commissioned July 1984. Ingalls Shipbuilding Division and Bath Iron Works build these ships.

CGN-38

VIRGINIA Class Nuclear Powered Guided Missile Cruiser

Mission: Operate offensively, independently or with strike, anti-submarine or amphibious forces against air, surface, and submarine threats.

Description: VIRGINIA class cruisers have nuclear propulsion and are armed with missiles for anti-air, anti-surface, and anti-submarine warfare. Additional armament consists of guns, torpedoes, electronic-warfare measures, and provisions for embarked anti-submarine helicopters. The four cruisers of the VIRGINIA class are an improvement of the two-ship CALIFORNIA class nuclear powered guided missile cruisers.

Characteristics:

Length:	585 ft
Beam:	63 ft
Displacement:	11,077 tons
Propulsion:	Two nuclear reactors
Speed:	Over 30 knots
Accommodations:	530

Armament:	STANDARD Missiles ASROC (anti-submarine rocket) 2 5"/54 cal MK-45 MK-46 torpedoes HARPOON Missiles 2 LAMPS helicopters

Comments: All four VIRGINIA class nuclear powered guided missile cruisers have been delivered to the Navy: USS VIRGINIA (CG-38) in 1976, USS TEXAS (CGN-39) in 1977, USS MISSISSIPPI (CGN-40) in 1978, and USS ARKANSAS (CGN-41) in 1980. Newport News Shipbuilding and Drydock Company, Newport News, Virginia, was the builder. CALIFORNIA and VIRGINIA classes are planned for TOMAHAWK installation.

DDG-51

ARLEIGH BURKE DDG-51 Class Guided Missle Destroyer

Mission: Operate with Surface Action Groups, Carrier Battle Groups, Amphibious Groups and Replenishment Groups providing anti-air, anti-surface and anti-submarine warfare capabilities. This class will replace existing guided missile destroyers which will be facing obsolescence by 1990.

Artist's Conception

Description: ARLEIGH BURKE Class guided missile destroyers will be all steel construction designed with better survivability than its predecessors. Its propulsion system will be similar to that of USS TICONDEROGA and its radar will be state-of-the-art multi-function phased array SPY-1D. Its weapons systems provide for long range strike, anti-surface and anti-air warfare capabilities. Anti-submarine warfare capability will be enhanced with the use of both active and passive shipboard systems, towed array sonar and LAMPS ASW helicopters.

Characteristics:

Armament:

STANDARD Missiles
TOMAHAWK/HARPOON Missiles
ASROC & OTS Torpedoes
5″ gun for conventional & laser-guided shells
2 PHALANX CIWS
1 helicopter landing-deck for LAMPS MKIII

DDG-993

KIDD-Class Guided Missile Destroyer

Mission: Operate with Surface Action Groups, Carrier Battle Groups, Amphibious Groups and Replenishment Groups providing anti-air, anti-surface and anti-submarine warfare capabilities.

Description: These ships were ordered by the Imperial Government of Iran and later cancelled by the Iranian Government. They were subsequently acquired by the United States Navy in 1981 and 1982.

Characteristics: Similar to the SPRUANCE-class in their construction, the 4 KIDD-class have greater displacement and improved armament, including two double-rail MK-26 missile launchers for both STANDARD MR Anti-Air Warfare missiles and ASROC Anti-Submarine missiles.

Armament:
- 2 5"/54 cal MK-45 guns
- STANDARD SAM missiles
- HARPOON SSM missiles
- ASROC
- MK-46 torpedo
- Helicopter capability
- 2 PHALANX CIWS

Comments: These ships, KIDD, CALLAGHAN, SCOTT and CHANDLER, were built by the Ingalls Shipbuilding Division of Litton Industries.

DD-963

SPRUANCE Class Destroyer

Mission: Provide a major contribution toward sea control, with the lesser included functions of sea denial, and projection of naval power. SPRUANCE class destroyers are capable of this as elements of a Navy battle group, carrier task group, amphibious task group, underway replenishment group, and in support of convoy operations.

Description: These are the first United States Navy combatants built with gas turbine propulsion. The four marine gas turbine engines produce more than 80,000 horsepower which give these ships the capability of speed in excess of 30 knots. The ships have twin screws, twin rudders and two widely separated main propulsion spaces, each containing two gas turbine engines. The controllable, reversible pitch propellers, give the ships a high degree of maneuverability.

Characteristics:

Length:	563 ft
Beam:	55 ft
Draft:	29 ft
Displacement:	7,865 tons
Propulsion:	4 GE LM 2500 marine gas turbine engines 2 controllable pitch propellers
Speed:	Over 30 knots
Accommodations:	296
Armament:	2 5"/54 cal MK-45 guns ASROC 8-cell launcher MK-46 torpedo NATO SEASPARROW HARPOON and TOMAHAWK Missiles Helicopter capability 2 PHALANX CIWS

Comments: Ingalls Shipbuilding Division of Litton Industries built all of the 31 SPRUANCE class destroyers authorized. All SPRUANCE class ships will be configured to carry the TOMAHAWK missile system after its IOC in June 1984.

FFG-7

OLIVER HAZARD PERRY Class Guided Missile Frigate

Mission: Serve as ocean escorts with amphibious task groups, underway replenishment groups, or convoys.

Description: The Perry class is equipped with surface-to-air defensive, and surface-to-surface offensive missile systems, torpedoes, CIWS and a 76mm gun. These ships also are equipped to operate two manned anti-submarine helicopters which extend the FFG's attack range and over-the-horizon detection capability. The hull mounted active sonar and passive towed array sonar give these ships substantial anti-submarine warfare capabilities.

Characteristics:

Length:	453 ft
Beam:	45 ft
Displacement:	3,740 tons (full load)
Speed:	Over 28 kts
Propulsion:	2 GE (LM-2500) gas turbines (single shaft with controllable pitch propeller)
Accommodations:	215
Armament:	STANDARD SAM HARPOON SSM 76mm/62 cal MK-75 gun PHALANX CIWS MK-46 torpedoes (2 triple tube launchers) 2 helicopters (LAMPS I or LAMPS III)

Comments: FFG-7, the lead ship, was contracted to Bath Iron Works, Bath, Maine in October 1973, and delivered to the Navy in November 1977. USS MCINERNEY (FFG-8) was delivered in November 1979. A total of 50 FFG-7 class frigates have been authorized. Todd shipyards, San Pedro, California and Seattle, Washington are also building FFG-7 class frigates.

LHA-1

TARAWA Class Amphibious Assault Ship

Mission: Embark, deploy, and land Marine Corps amphibious units in an assult by helicopters, landing craft, amphibious vehicles, and by combinations of these methods.

Description: The LHA combines the features of the Amphibious Assault Ship (LPH), the Amphibious Transport Dock (LPD), the Amphibious Cargo Ship (LKA), and the Dock Landing Ship (LSD) into a single ship. The LHA has a full length flight deck, large hangar deck, a wet well in the stern with rapid ballasting and deballasting capability, and extensive storage and maintenance facilities. Full hospital capabilities including operating rooms, wards, blood bank and dental offices are built into the ships.

Characteristics:

Length:	820 ft
Beam:	106 ft
Displacement:	39,000 tons (full load)
Propulsion:	Geared steam turbine, twin screw
Speed:	22+ knots
Helicopters:	38 CH-46 equivalents
Accommodations:	989 USN, and 1,924 embarked Marines
Armament:	2 MK-25 SEASPARROW (BPDMS) launchers 2 5"/54 cal MK-45 guns PHALANX CIWS

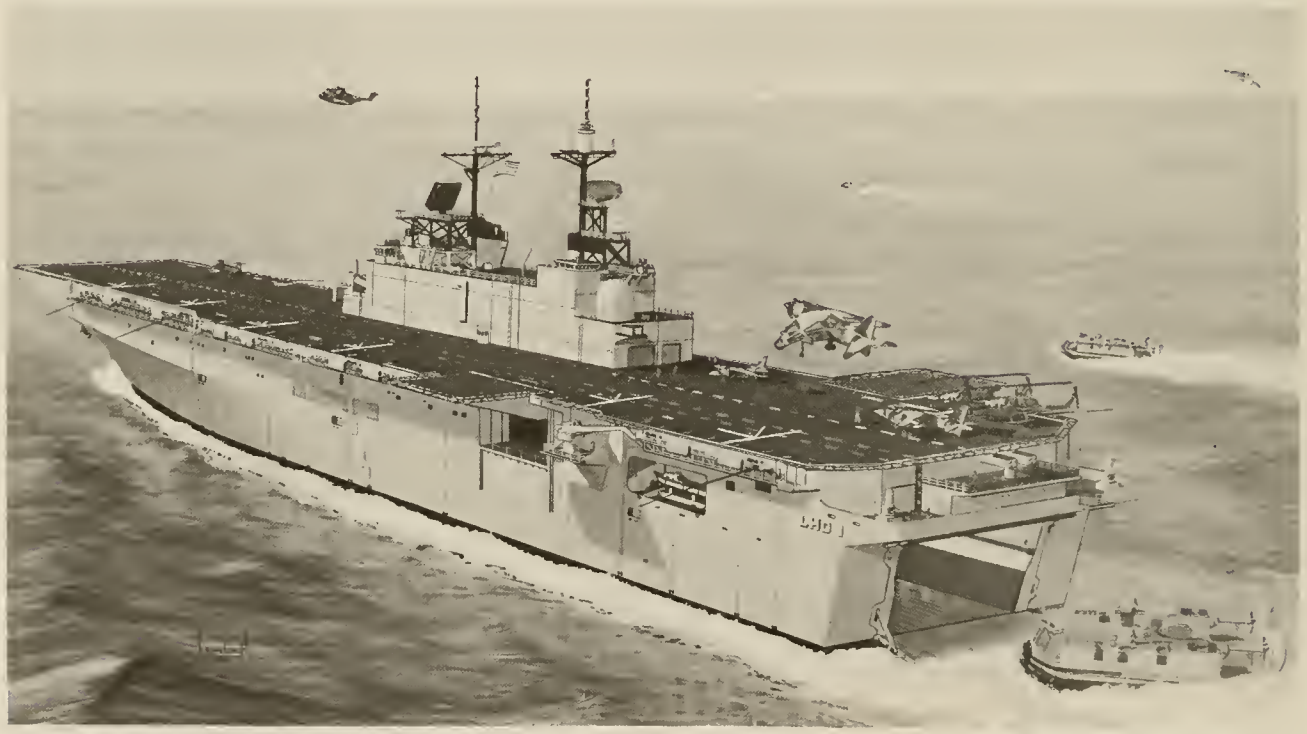
Comments: The five ships of the LHA Class are: USS TARAWA (LHA 1), USS SAIPAN (LHA 2), USS BELEAU WOOD (LHA 3), USS NASSAU (LHA 4), and USS PELILEU (LHA 5).

LHD-1

WASP Class Multi-Purpose Amphibious Assault Ship

Mission: Primary-Amphibious: embark, deploy and land elements of a Marine Air/Ground Task Force in an assault by helicopters, landing craft, amphibian vehicles, and by combinations of these methods. Secondary-Convertible: conduct sea control and power projection missions.

Artist's Conception



Description: The LHD design is based on modifications of the LHA 1 Class with enhanced assault capabilities in several areas. The LHD has a flight deck for operation of helicopters and V/STOL aircraft, and a well deck for both air-cushion and conventional landing craft. Full hospital capabilities include six medical operating rooms and 600 beds.

Characteristics:

Length:	840 ft
Beam:	106 ft
Displacement:	40,600 tons (full load)
Draft:	26 ft 8 in (full load)
Speed:	22+ knots
Helicopters:	42 CH-46 equivalents
LCACs:	3
Accommodations:	Crew 1,080 and Landing Force 1,873 plus 200 surge
Propulsion:	Geared steam turbine, twin screw
Armament:	3 CIWS and 2 IPDSMS (Improved Point Defense Surface Missile System)

Comments: Ingalls Shipbuilding Division (ISD) of Litton Industries, Pascagoula, Mississippi was awarded the contract design contract in August 1982 and long-lead material procurement and related engineering support contracts in September 1982 and April 1983 for LHD 1. The detail design and construction contract for LHD 1 will be awarded to ISD in 1984.

LSD-41

WHIDBEY ISLAND Class Landing Ship Dock

Mission: Support United States Navy and Marine Corps amphibious operations including landings upon a hostile shore.

Artist's Conception

Description: The LSD 41 is a multifunction dock landing ship capable of a wide-range of amphibious assault operations, including primary support for LCACs. The LSD 41 is able to carry four LCACs in her large well deck and has a helicopter deck capable of supporting two-helicopter operations. These ships are similar to the LSD 36 class and will replace the older LSD 28 class. They have been designed to support developing amphibious warfare concepts through the year 2015.

Characteristics:

Length:	609 ft 7 in
Beam:	84 ft
Displacement:	15,814 tons (full load)
Draft:	19 ft 7 in (full load)
Speed:	20+ knots
Accommodations:	Crew 356 and Landing Force 402 plus 102 surge
Propulsion:	Medium speed diesel
Armament:	2 CIWS for point defense

Comments: Lockheed Shipbuilding and Construction Company, Seattle, WA is constructing WHIDBEY ISLAND (LSD 41), GERMANTOWN (LSD 42) and LSD 43. In November 1983 Avondale Shipbuilding Incorporated, New Orleans, LA was awarded the contract for construction of LSD 44 with options for LSD 45, 46, 47 and 48.

LPD-4

AUSTIN Class Amphibious Transport Dock Service Life Extension Program

Mission: Transport and land Marines, their equipment, and their supplies by embarked landing craft or amphibious vehicles augmented by helicopters in amphibious assault.

Description: The LPD 4 amphibious transport dock carries a balanced load of assault troops, equipment, vehicles and cargo; has a docking well for conventional landing craft; and a helicopter flight deck. LPD 7 through 13 have staff accommodations and command and control facilities. After SLEP (a package of fleet modernization program alternations, extensive repairs, and life-enhancing alterations) the ship's capabilities will be upgraded to support the LCAC, carry four CH-46 helicopters, installations of CIWS and the service life will be extended from 30 to 45 years.

Characteristics:

Length:	570 ft
Beam:	84 ft
Displacement:	16,500 tons (full load)
Draft:	23 ft (full load)
Speed:	20+ knots
Accommodations:	Crew 420 and Landing Force 934
Propulsion:	2 steam turbine, 2 boilers
Armament:	2 3" 50 CAL

Comments: USS JUNEAU (LPD 10) will begin SLEP in early 1987. During the following five years, her 10 sister ships will complete SLEP.

PHM-1

PEGASUS Class Patrol Combatant-Missile (Hydrofoil)

Mission: Operate offensively against hostile surface combatants and other surface craft; and conduct surveillance, screening, and special operations.

Description: The PHM is an all-weather, high-speed, hydrofoil weapons platform. The propulsion plant contains two independent systems. Two waterjet pumps, each driven by a diesel engine, are used when hullborne. Reversing buckets redirect the waterjet while backing down. When foilborne, propulsion is provided by a single waterjet driven by a gas turbine through reduction gears. Maneuvering, while foilborne, is achieved with the after foil system and a steerable forward strut. Height and motion sensors integrated into an automatic control system ensure a remarkable degree of stability, even in sea state five operation.

Characteristics:

Length:	131 ft
Beam:	28 ft
Displacement:	230 tons (full load)
Draft:	6 ft 3 in (hullborne, foils retracted) 23 ft 3 in (hullborne, foils extended) 8 ft 9 in (foilborne)
Speed:	11 knots (hullborne) over 40 knots (foilborne)
Range:	over 500 NM (foilborne)
Propulsion:	Hullborne—2 diesels through waterjets Foilborne—1 GE-LM-2500 gas turbine, with single waterjet
Crew:	21 (4 officer, 17 enlisted)
Armament:	1 76mm/62 cal MK-75 gun 8 HARPOON (in stern canisters)

Comments: The builder of these ships, Boeing Marine Systems, used technology derived from the aircraft industry in the construction. They have an aluminum hull and superstructure. The hull is all-welded; the superstructure is riveted and welded. The struts and foils are high-strength stainless steel. All six PHM ships have been commissioned and are operational as a single squadron.

AS-39

EMORY S. LAND Class Submarine Tender

Mission: Provide mobile base facilities capable of furnishing maintenance and logistic support for nuclear attack submarines, including SSN 688 class.

Description: Submarine tenders have the industrial facilities and logistic capability to support submarines at advanced bases. Twelve nuclear attack submarines can be fully supported with up to four simultaneously receiving complete alongside services. The ships have a helicopter platform, but no hanger.

Characteristics:

Length:	646 ft
Beam:	85 ft
Draft:	28 ft
Displacement:	23,000 tons (full load)
Speed:	20 knots (18 knots sustained)
Accommodations:	1,227
Armament:	4 20mm AA MK-67 2 40mm machine gun grenade launchers

Comments: Three ships were authorized, one each in FY 72, 73 and 77. Lockheed Shipbuilding and Construction Co., Seattle, Washington is the builder. USS EMORY S. LAND (AS-39) was delivered to the Navy in March 1979, USS FRANK CABLE (AS-40) in February 1980 and USS McKEE (AS-41) in August 1981.

AO-177

CIMARRON Class Fleet Oiler

Mission: Transport and deliver petroleum products and limited stores to operating forces at sea, therefore making task groups as independent as possible of overseas sources of fuel.

Description: The CIMARRON class is a new underway replenishment ship class which replaces the aging oilers in the fleet today. This class fleet oiler shuttles petroleum and freight to battle groups directly and indirectly via AOE/AOR station ships. A helicopter landing area is provided on the stern.

Characteristics:

Length:	591 ft
Beam:	88 ft
Draft:	32 ft
Displacement:	26,110 tons (full load)
Cargo capacity:	120,000 barrels
Speed:	20 knots
Accommodations:	221
Armament:	2 PHALANX CIWS

Comments: All authorized ships were built by Avondale Shipyards. All five have been commissioned: USS CIMARRON (AO-177), USS MONOGALHELA (AO-178), USS MERRIMACK (AO-179) in 1981, USS WILLAMETTE (AO-180) in 1982 and USS PLATTE (AO-181) in 1983.

AD-41

YELLOWSTONE Class Destroyer Tender

Mission: Provide mobile base facilities and support for destroyers, cruisers, frigates, and other Navy ships as required. The mobility of destroyer tenders reduces United States Navy dependence on overseas bases.

Description: YELLOWSTONE class destroyer tenders are similar in design to the SAMUEL GOMPERS class destroyer tenders. They will replace the aging destroyer tenders now in the fleet, and will be capable of providing support to the new classes of nuclear cruisers, various destroyer classes and other surface ships.

Characteristics:

Length:	642 ft
Beam:	85 ft
Draft:	22 ft 6 in
Displacement:	20,224 tons (full load)
Speed:	18 knots
Accommodations:	1,595
Armament:	2 20mm PHALANX CIWS
	2 20mm MK-67 machine guns

Comments: National Steel and Shipbuilding Co., San Diego, California built the four YELLOWSTONE class destroyer tenders authorized. The lead ship, USS YELLOWSTONE (AD-41) was commissioned in 1980, followed by USS ACADIA (AD-42) in 1981, USS CAPE COD (AD-43) in 1982, and SHENANDOAH (AD-44) in 1983.

TAO-187

Fleet Oiler

Mission: Transport and deliver petroleum products and limited stores/freight to operating forces at sea, making them less dependent on overseas sources.

Artist's Conception

Description: The TAO-187 class fleet oiler will be operated by the Military Sealift Command with a civil service crew and Naval Communications Detachment. The ships will be designed and constructed to commercial standards applicable to a Navy fleet oiler.

Characteristics:

Length:	677 ft
Beam:	97 ft
Displacement:	40,000 (long tons)
Capacity:	180,000 barrels
Speed:	20 knots

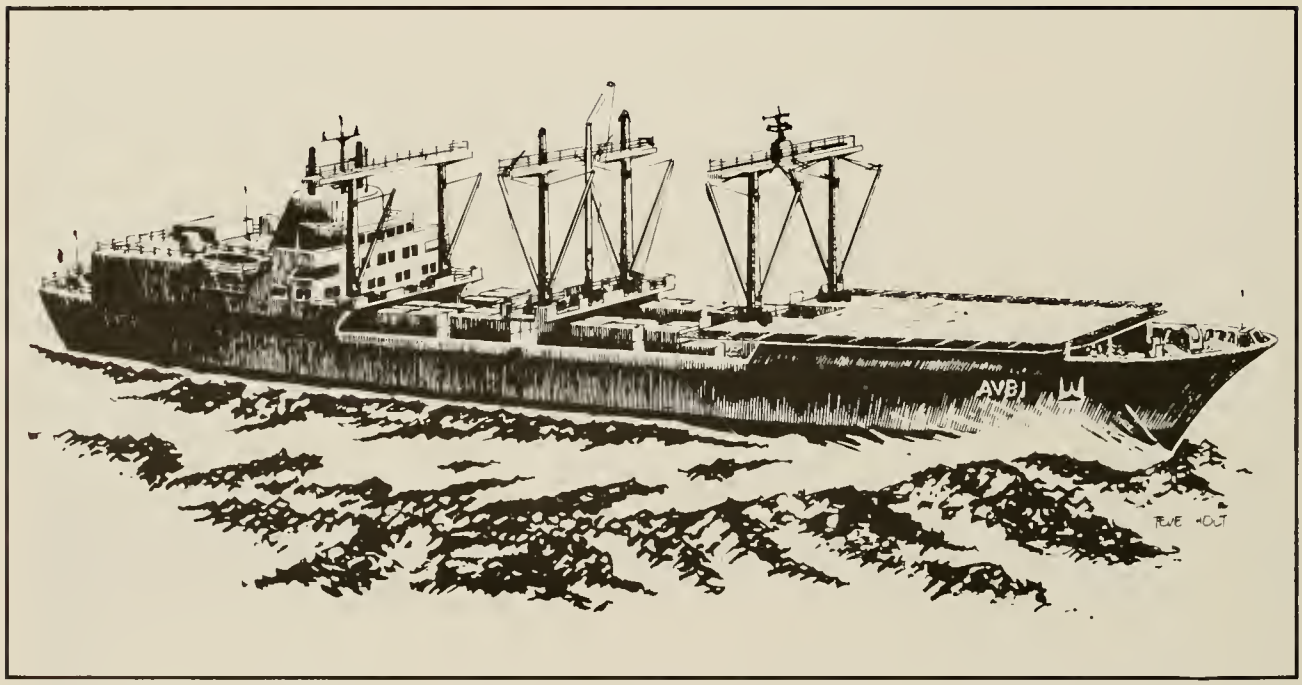
Comments: A contract was awarded on November 12, 1982 to Avondale Shipyards Inc., New Orleans, Louisiana to build the first of this class. Option for the second ship of the class was taken January 20, 1983, and for the third and fourth ships on November 22, 1983. The first ship wil be delivered in the fall, 1984. Three additional ships have been authorized by Congress.

TAVB

Aviation Logistics Support Ship

Mission: To provide dedicated sealift for movement of a functional aviation intermediate maintenance activity (IMA) to support rapid deployment of USMC fixed and rotrary wing aircraft.

Artist's Conception



Description: The TAVB will be a commercial Roll-on/Roll-off (RO/RO) ship modified to accommodate austerely a funtionalty IMA housed in mobile facility vans and its support. The ship will provide sealift to the theater of operations, partial activation of the IMA during transit and transfer of the IMA, and spares and equipment ashore as conditions permits. When the IMA is off-loaded, the TAVB will provide strategic sealift in a resupply role.

Characteristics:

	C5-S-78a	TAVB (new)
Displacement: (full load)	27,580 tons	23,900 tons
Length:	602 ft	602 ft
Breadth:	90 ft	90 ft
Draft, Scantling:	34 ft	34 ft
Draft, Mean (full load)	33.7 ft	29.8 ft
Containers (20 ft TEUs)	758	664
Speed at 80% power	23 knots	23 knots
Accommodations:		
Ship Crew	41	41
Passenger	13	—
IMA personnel		
Enlisted	—	300
Others	—	25
Total Accommdations	54	366

Comments: Two government owned, Seabridge Class (C5-S-78a), combination RO/RO and self-sustaining containerships will be modified to perform the TAVB mission. These ships are the S.S. YOUNG AMERICAN and the S.S. GREAT REPUBLIC. They are currently in the Ready Reserve Force (RRF) in the custody of the Maritime Administration.

The first ship, YOUNG AMERICAN, is scheduled for conversion in FY 1985, and the second, GREAT REPUBLIC, is scheduled for FY 1986.

TAKR

Fast Logistic Ship

Mission: Enhance strategic sealift capability of the United States for rapid, worldwide deployment of tanks, helicopters, and other military supplies and equpment.

Artist's Conception

Description: The TAKR is a large, fast converted container ship equipped with self-sufficient Roll-on/Roll-off and Lift-on/Lift-off facilities for rapid loading, deployment and off-loading pierside or in the stream. A helicopter landing area allows VFR daylight operations. Military cargo carrying capability includes tanks, helicopters, vehicles and containerized cargo. Flatracks and SEASHEDs are provided for outsized cargo (see below).

Characteristics:

Length:	946 ft
Beam:	105 ft 6 in
Displacement:	55,875 tons (full load)
Draft:	36 ft 10 in (full load)
Propulsion:	Steam turbine, 120,000 horsepower
Speed:	Up to 33 knots
Accommodations:	49

Comments: Eight SL-7 Class commercial containership were purchased by the Navy in 1981 and 1982 for conversion to the TAKR configuration. Four ships are undergoing conversion at three US shipyards: Avondale Shipyard Inc., New Orleans, LA; National Steel and Shipbuilding Co., San Diego, CA; and Pennsylvania Shipbuilding Co., Chester, PA. These ships will be delivered to the Military Sealift Command (MSC) this year.

The remaining four SL-7s are in the Ready Reserve Force. They are being equipped with flattracks, forms that fit into container cells to accommodate outsized cargo, and SEASHEDs, larger forms that are installed permanently in container cells for use with outsized cargo. Upon delivery of the four ships undergoing conversion, the remaining four ships will be converted to TAKRs for delivery to MSC in 1986. MSC will operate TAKRs with civilian contract crews.

TAK-6

Fleet Ballistic Missile Resupply Ship

Mission: Provide logistic resupply for submarines and submarine tenders deployed overseas and at East Coast refit sites.

Description: A Maritime Administration commecial cargo ship will be converted to American Bureau of Shipping survey and United States Coast Guard standards. The ship will have environmentally controlled stowage for fleet ballistic missiles and related components. Additionally, the ship will be capable of loading other strategic and conventional submarine weapons, ammunition, and stores. The ship is manned and operated by a Military Sealift Command (MSC) civilian crew. It has a heavy lift cargo capability.

Characteristics:

Length:	483 ft
Beam:	68 ft
Displacement:	16,400 long tons (full load)
Speed:	18 knots
Accommodations:	67 MSC, 7 USN

Comments: The ship was delivered in March, 1983, with conversion scheduled for fiscal year 1985. The United States Navy personnel assigned to the crew provide safety and security for the missiles.

T-ATF-166

POWHATAN Class Fleet Tug

Mission: Tow ships of the fleet which are battle damaged or otherwise damaged and not operational, and support salvage and other special missions when assigned.

Description: POWHATAN class fleet tugs are the first ships of their type procured by the Navy since World War II. They are substantially larger than earlier Navy fleet tugs and are being built to commercial standards. The ships are fitted with a bow thruster to aid in maneuvering, and they have a 10-ton capacity crane. These fleet tugs are not armed in peacetime.

The are manned and operated by the Military Sealift Command (MSC) with a civilian crew.

Characteristics:

Length:	225 ft
Beam:	42 ft
Draft:	15 ft
Displacement:	2,000 tons (full load)
Speed:	15 knots
Propulsion:	2 EMD diesels, 3,600 horsepower each, 2 shafts with controllable pitch props

Comments: Marinette Marine Corp., Wisconsin, was the builder of all seven ships. USNS POWHATAN (T-ATF-166), and USNS NARRAGANSETT (T-ATF-167) were delivered in 1979; USNS CATAWBA (T-ATF-168), USNS NAVAJO (T-ATF-169), and USNS MOHAWK (T-ATF-170) in 1980, and USNS SIOUX (T-ATF-171) and USNS APACHE (T-ATF-172) in 1981.

T-AGOS-1

STALLWART Class Ocean Surveillance Ship

Mission: World-wide surveillance towing a special array known as the Surveillance Towed Array Sensor (SURTASS).

Description: T-AGOS-1 class ships will be operated by the Military Sealift Command (MSC) and the SURTASS electronics system will be operated by civilian technicans. Construction meets commercial standards under special survey of the American Bureau of Shipping (ABS).

Characteristics:

Length:	224 ft
Beam:	43 ft
Displacement:	2,285 long tons
Speed:	11 knots
Accommodations:	19 MSC, 9 civilian technicians

Comments: The following 12 T-AGOS-1 class ocean surveillance ships are under construction at Tacoma Boatbuilding Company, Tacoma, WA:

T-AGOS	1	STALLWART
	2	CONTENDER
	3	VINDICATOR
	4	TRIUMPH
	5	ASSURANCE
	6	PERSISTENT
	7	INDOMITABLE
	8	PREVAIL
	9	ASSERTIVE
	10	INVINCIBLE
	11	DAUNTLESS
	12	VIGOROUS

All 12 ships will be delivered between February 1984 and May 1986.

AVENGER

AVENGER Class Mine Countermeasures Ship

Mission: Hunt, neutralize and sweep mines in coastal waters, choke points, and critical overseas areas.

Description: Our surface mine countermeasures capability will realize a tremendous improvement when the new Avenger-class Mine Counter-Measures Ship (MCM) enters the fleet. The MCM will provide an enhanced surface mine-hunting, minesweeping and mine neutralization capability by introducing state-of-the-art combat systems equipment to the mine warfare community. The MCM will have a Glass Reinforced Plastic sheathed wood hull, twin controllable, reversing propellers, diesel engines and its own degaussing system to maintain a very low magnetic signature. Its size will be larger than the present MSO class ships.

Characteristics:

Length:	224 ft
Beam:	39 ft
Draft:	11.4 ft
Speed:	13.5 knots
Propulsion:	2,280 SHP twin screw
Displacement:	1,312 Long tons (full loads)
Equipment:	Mine-hunting Sonar, Mine-neutralization System, Precise Integrated Navigation System

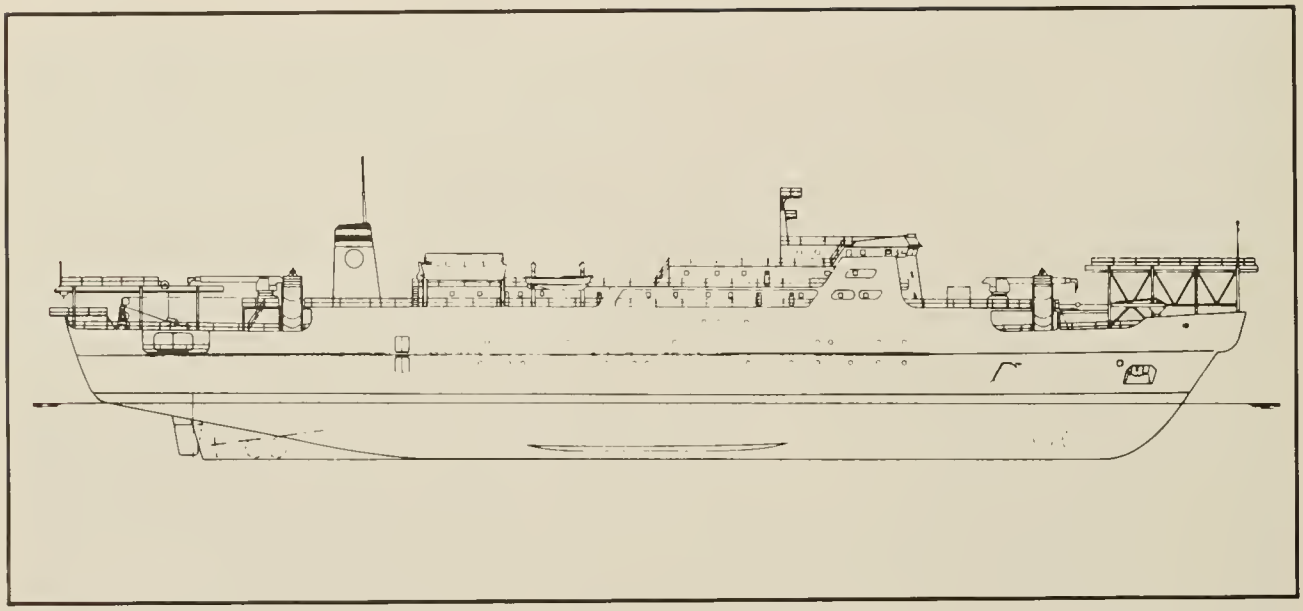
Comments: The two builders of the AVENGER Class will be Peterson Builders, Inc. and Marinette Marine Corporation. Five ships have been ordered; the first ship is expected to be launched in 1985.

T-ARC 7

ZEUS Class Cable Repair Ship

Mission: Transport, deploy, retrieve and repair submarine cables, tow acoustic projectors, cable plow, and conduct acoustic hydrographic and bathymetric surveys.

Artist's Conception



Description: The USNS ZEUS is the first of a cable repair ship class built for the Navy. Unlike existing cable ships in the Navy fleet which have been converted from other missions, the ZEUS was built to be a cable repair ship from the keel up. The ship also differs from other Navy cable ships in that it has the capability to deploy, retrieve and repair cable from both bow and stern. The ship is built to commercial standards and will be manned and operated by a civilian crew. The ship was delivered in March 1984.

Comments: The ship was constructed at National Steel and Shipbuilding Company.

Characteristics:

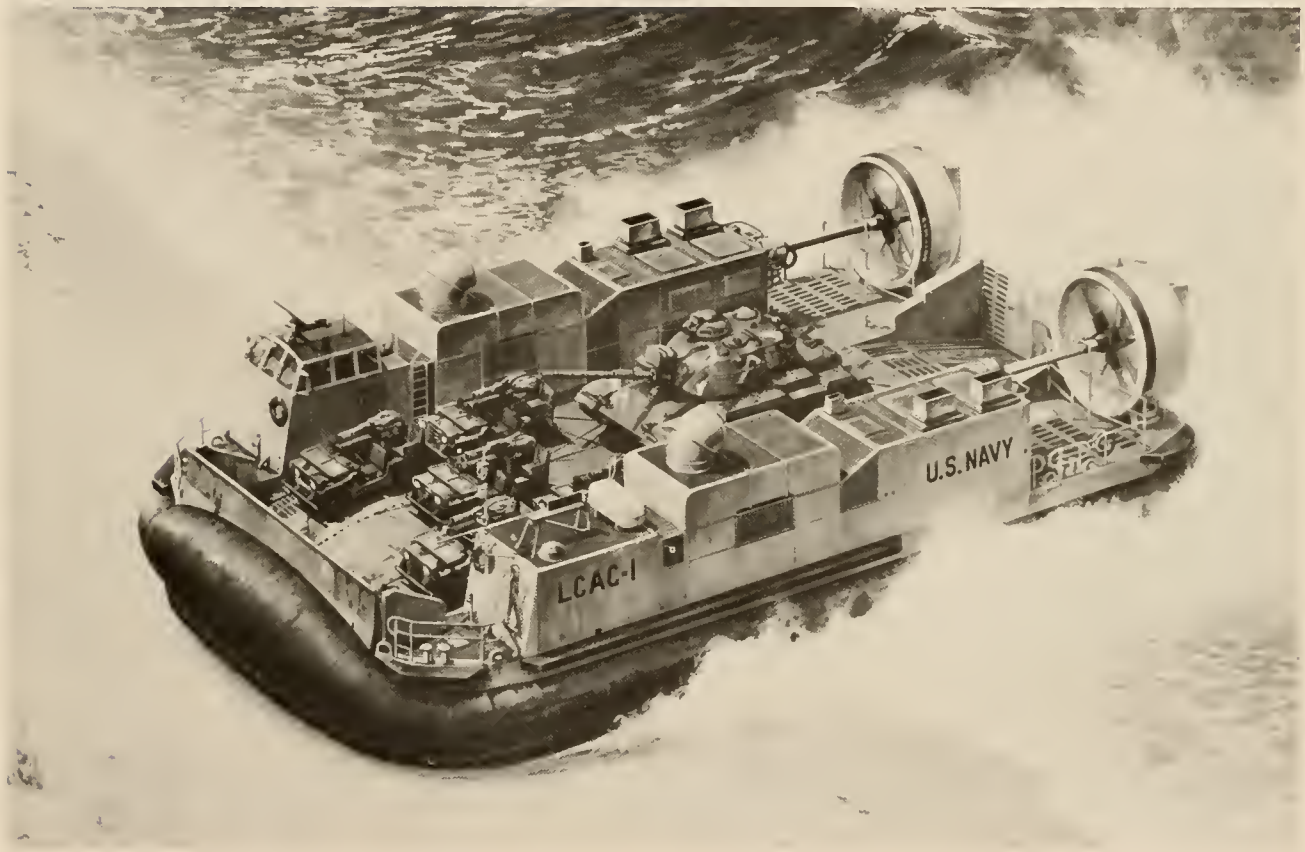
Length:	514 ft
Beam:	73 ft
Draft:	24 ft
Displacement:	14,225 tons (full load)
Speed:	15 knots
Propulsion:	diesel electric
	10,000 horsepower
Accommodations:	88 MSC
	32 Technicians
	8 (communications)

LCAC

Advanced Landing Craft Air Cushion

Mission: Transport from ship to shore and across the beach personnel, weapons systems and equipment cargo of the assault elements of the Marine Air/Ground Task Force.

Artist's Conception



Description: A high-speed amphibious craft capable of lifting heavy equipment across the beach. The LCAC rides on a cushion of air so as not to be limited by surf or beach conditions. Ninety craft are required to support a Marine Amphibious Force and a Marine Amphibious Brigade.

Characteristics:

Length:	88 ft
Beam:	47 ft
Payload:	120,000 lbs.
Speed:	40+ knots
Range:	195 NM
Propulsion:	4 AVCO LYCOMING TF-40B 12,444 SHP

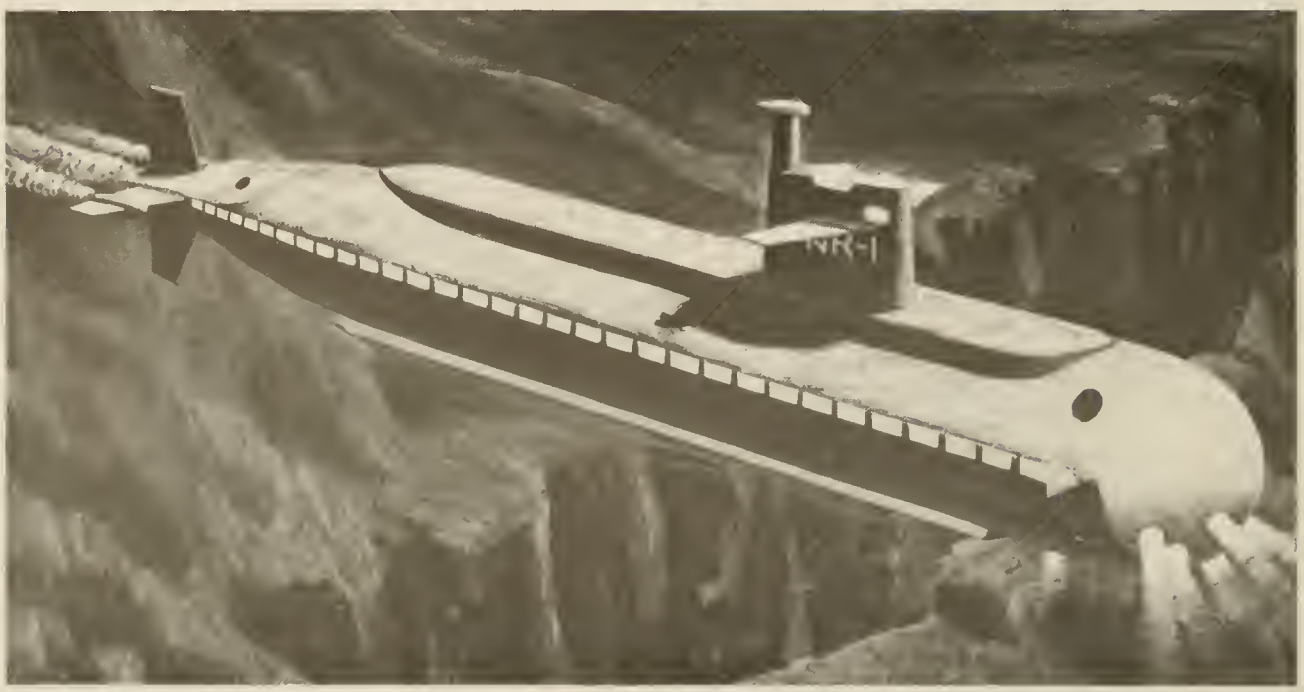
Comments: Contracts for construction of the LCAC have been awarded to Bell Halter Inc. for six craft in 1981; and additional contract award to Bell brings the number of LCACs under construction to 12. The FY 1985 budget calls for 9 additional craft.

NR 1

Nuclear Powered Research Submarine

Mission: Search, work and object recovery, geological survey, underwater equipment installation and maintenance, and oceanographic research.

Artist's Conception



Description: NR-1 is a compact, nuclear powered, electric drive undersea research and ocean engineering submarine which can place man on the bottom of the ocean with facilities unmatched by any other vehicle. Her nuclear propulsion plant enables an endurance limited only by provisions: 315 man-days (1-1/2 months with normal complement) have been demonstrated. NR-1 can maneuver on or close to the seabed, directly view and record her environs, navigate with precision, search for objects at a considerable distance, and recover objects from the bottom.

Characteristics:

Length:	137 ft
Diameter:	12.5 ft
Beam:	15.9 ft
Draft:	15 ft
Operating Depth:	2,375 ft
Displacement:	372 tons
Endurance:	315 man-days/210 man-days (nominal)

Comments: It is the policy of the U.S. Navy to make NR-1 available to all qualified agencies of the U.S. Government and accredited research organizations for use in deep ocean research. Users have included the Naval Underwater Systems Center at New London, Connecticut, the Naval Civil Engineering Laboratory, Woods Hole Oceanographic Institute, Lamont-Doherty Geological Observatory of Columbia University, and the University of Rhode Island.

DSRV

MYSTIC Class Deep Submergence Rescue Vehicle

Mission: Rescue Personnel From Disabled Submarines on the ocean bottom.

Artist's Conception

Description: The Navy's two DSRVs, MYSTIC and AVALON, are homeported at San Diego at the Submarine Rescue Unit (SRU) and are under the control of Commander, Submarine Development Group ONE. One DSRV is always in standby status ready to respond to a submarine disaster. The DSRVs are capable of being deployed to all areas of the world by air or sea, and are designed to operate primarily from specially configured Submarine Rescue Vessels (ASRs) and certain nuclear submarines called Mother Submarines. They can mate with all U.S. submarines and conduct rescues to collapse depths of all combatant submarines. Twenty-four men per trip can be carried from the distressed submarine.

Characteristics:

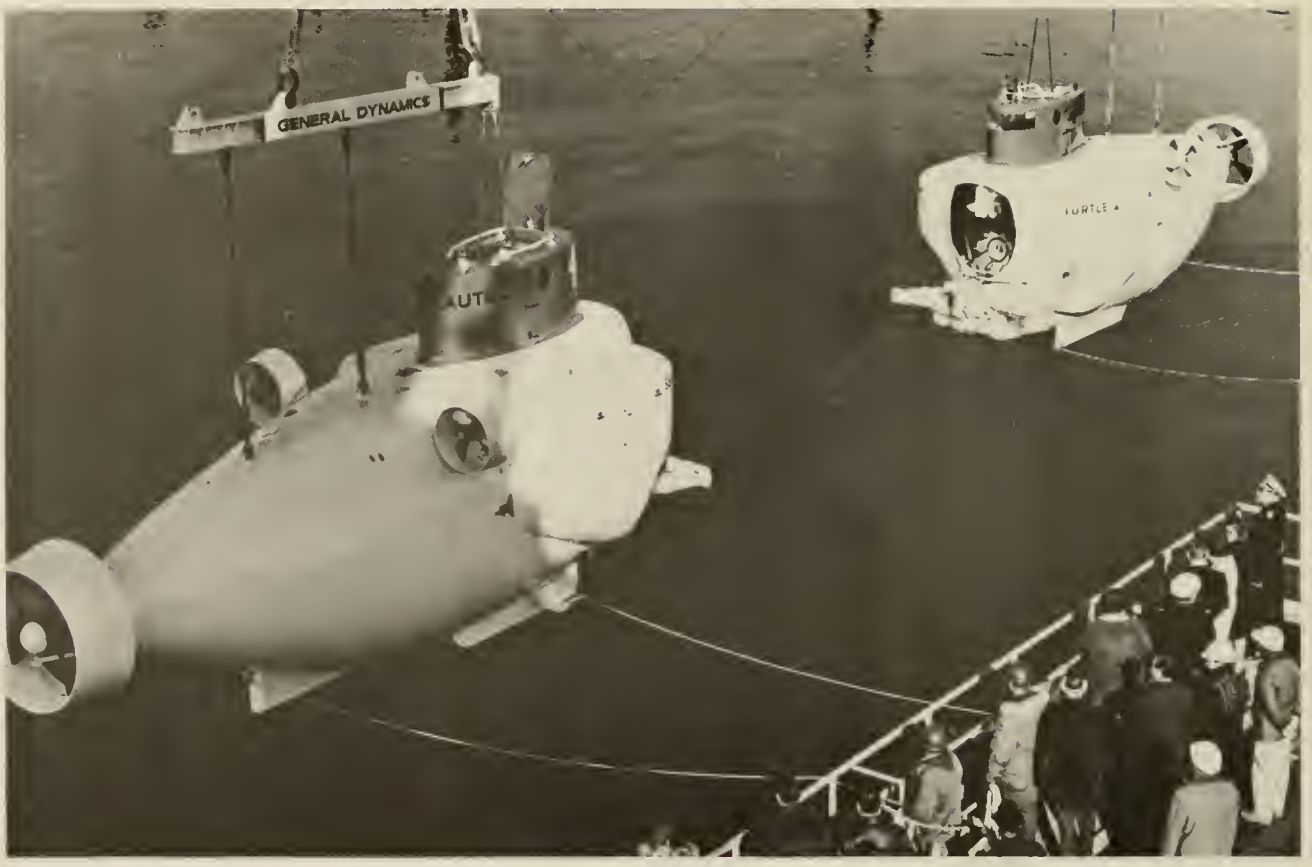
Length:	49.3 ft
Beam:	8.1 ft
Draft:	10.75 ft
Crew:	Pilots 3
	Rescuees 24
Speed:	4.5 knots
Operating Depth:	5,000 ft
Launch Dates:	1970 & 71

Comments: Lockheed Missiles and Space Corp. is the prime contractor.

DSV

Turtle Class Deep Submergence Vehicle

Mission: Inspection, Work and Recovery tasks in the deep ocean.



Description: Deep sea work systems include three manned DSVs for the performance of ocean engineering tasks in the deep ocean. Two DSVs, (TURTLE and SEA CLIFF) are homeported in San Diego under the control of Commander, Submarine Development Group ONE. The third (ALVIN) is operated for the Navy by Woods Hole Oceanographic Institution.

Characteristics:

	ALVIN (DSV-2)	TURTLE (DSV-3)	SEA CLIFF (DSV-4)
Length	25 ft	26 ft	26 ft
Beam	8 ft	12 ft	12 ft
Height	13 ft	12 ft	12 ft
Draft	7.5 ft	7.4 ft	7.4 ft
Operating Depth	13,000 ft	10,000 ft	20,000 ft
Speed	2 kts	2.5 kts	2.5 kts
Crew Pilots	1	2	2
Observers	2	1	1
Launch Date	1964	1968	1968

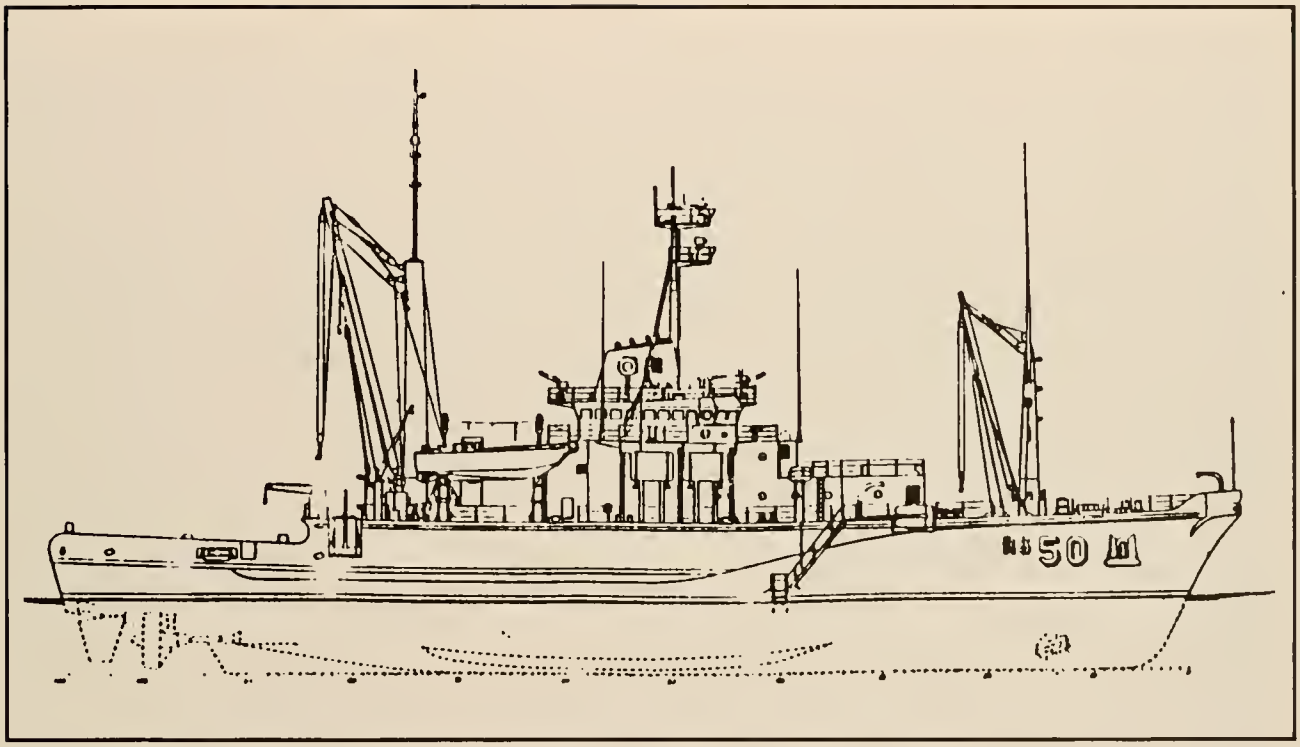
Comments: DSV-4 SEA CLIFF will complete 20,000 ft conversion in early 1984. The 20,000 ft capability allows various inspection, work and recorvery tasks to be performed virtually anywhere in the ocean.

ARS-50

SAFEGUARD Class Salvage Ship

Mission: Provide modern ship salvage capability using state-of-the art technology to update BOLSTER class salvage ships.

Artist's Conception



Description: These ships will provide improved habitability, galley, messing, medical and storeroom areas for salvage crews. Equipped with bow thruster, CPR propellers with KORT nozzles and modern salvage equipment, these ships will replace the DIVER and BOLSTER class salvage ships.

Characteristics:

Length:	240 ft
Beam:	50 ft
Displacement:	2,800 tons (full load)
	2,300 tons (light ship)
Draft:	15.5 ft
Speed:	14 knots sustained
Propulsion Diesel:	Bow Thruster 500 HP
Crew:	6 officers
	97 enlisted

Comments: These new construction ships are expected to join the fleet during FY 1985 and 1986. Four ships of this class are anticipated.

F/A-18

HORNET

Mission: The F/A-18 is designed as a multi-mission fighter and attack aircraft for the United States Navy and Marine Corps in the 1980s and 1990s. It will replace Navy A-7s and Navy and Marine Corps F-4s.

Three Marine Corps and two Navy squadrons are operational and have completed carrier qualifications. Two of the Marine squadrons are ready for combat and the third will soon have this capability.

Description: The F/A-18 HORNET is a multi-role, high performance tactical aircraft which can perform fighter, strike or intercept missions. The twin engine aircraft is capable of operating from both aircraft carriers and shore bases.

Characteristics:

Length:	56 ft
Height:	15 ft 3 in
Wing Span:	37 ft 6 in
Weight:	35,000 lbs—fighter 51,900 lbs—attack
Speed:	Mach 1.7+
Inventory:	1 Jan 84 122 (US) Funded/Undelivered 337 (US)
Ceiling:	Over 50,000 ft
Powerplant:	2 F404-GE-400
Range:	Over 400 NM fighter (internal fuel) Over 550 NM attack
Armament:	1 20mm MK-61 VULCAN Cannon
Fighter Mission:	SPARROW III SIDEWINDER
Attack Mission:	Guided and conventional air-to-ground ordnance FLIR/LDT pods

F-14A

TOMCAT

Mission: Attack and destroy multiple airborne targets in all weather conditions and at night. The F-14A is replacing the F-4 in fleet air defense and other fighter roles.

Description: The F-14 is a twin-engine, two-place, variable sweep wing, supersonic fighter. It carries the advanced AWG-9 weapons control system capable of controlling six PHOENIX (AIM-54A) missile launches while simultaneously tracking 24 targets. Additionally, the F-14 is designed to carry a mix of other air intercept missiles, rockets, and bombs.

Characteristics:

Length:	62 ft 9 in
Height:	16 ft
Wing Span:	64.1 ft
Weight:	40,100 lbs (empty) 62,260 lbs (gross)
Speed:	Mach 2+ class
Ceiling:	Above 50,000 ft
Powerplant:	2 Pratt and Whitney TF30-P-414A (20,000 lb each max. afterburner)
Armament:	6 PHOENIX 4 SPARROW 4 SIDEWINDER 1 20mm MK61A1 VULCAN Cannon

Comments: Grumman Aerospace Corporation is the prime contractor. As of January 1984, the Navy had 410 Tomcats in its inventory with 56 more funded but not delivered.

A-6E

INTRUDER

Mission: Destroy both moving and fixed, sea and land targets, in all-weather conditions, and during darkness.

Description: The A-6E is an all-weather, two seat, carrier-based attack aircraft. It is a modernized version of the A-6A; equipped with a microminiaturized digital computer, a solid state weapons release system, and a single integrated track and search radar. The Target Recognition/Attack Multi-sensor (TRAM) version of the A-6E with chin turret, containing a Forward-Looking-Infra-Red (FLIR) system, and a laser designator and receiver, was introduced into the fleet in 1979.

Characteristics:

Length:	54 ft 8 in
Height:	15 ft 6 in
Weight:	28,000 lbs (empty) 60,400 lbs (gross) 58,600 lbs (maximum carrier takeoff weight)
Wing Span:	53 ft
Speed:	563 knots
Ceiling:	40,600 ft
Powerplant:	2-Pratt & Whitney J52-P8B (9,300 lbs thrust each)
Armament:	Bombs, rockets and air-to-surface missiles

Comments: Grumman Aerospace Corporation is the prime contractor. The Navy's inventory of A-6E planes stood at 344 in January 1984, with 23 funded but undelivered.

EA-6B

PROWLER

Mission: Actively and passively assist other aircraft operations by suppressing and degrading enemy defense systems through jamming of enemy electronic signals.

Description: The EA-6B system is a four seat derivation of the highly successful A-6 attack aircraft. It features a computer controlled electronic surveillance and control system and 12 high power jamming transmitters in various frequency bands. The jamming transmitters are contained in pods mounted externally on the five aircraft pylons. The capability of the aircraft can be varied through the frequency spectrum by varying the mix of jamming transmitters on the aircraft.

Characteristics:

Length:	59 ft 8 in
Height:	16 ft 3 in
Wing Span:	53 ft
Weight:	26,868 lbs (empty) 60,400 lbs (gross)
Speed:	520 kts at sea level w/6 pods
Ceiling:	34,400 ft
Powerplant:	2 P&W J-52-P-408 (11,000 lbs thrust each)

Comments: Grumman Aerospace Corporation is the prime contractor. Older versions of the Prowler are being updated to meet capabilities of new production aircraft. The Navy's inventory of EA-6B stood at 72 planes in January 1984, with 18 funded and not yet delivered.

S-3A

VIKING

Mission: Seek out and destroy enemy submarines in support of high priority operations at sea, provide surface surveillance and subsurface attack. The S-3A replaces the S-2 TRACKER.

Description: The S-3A is a high wing, high subsonic, all-weather, long range, high endurance jet aircraft. It is capable of locating and destroying conventional as well as newer high speed, deep submergence, quiet running submarines.

Characteristics:

Length:	53 ft 3 in
Height:	22 ft 8 in
Wing Span:	68 ft 8 in
Weight:	26,864 lbs (empty) 46,000 lbs (gross) 52,500 lbs (max. ASW take-off)
Speed:	450 knots
Ceiling:	40,000 ft
Powerplant:	2 General Electric TF-34-GE-400 jet engines 9,275 lbs thrust each
Crew:	4
Armament:	4 MK-46 Torpedoes Bombs Mines

Comments: The prime contractor for the Viking is Lockheed California. The Navy's inventory of S-3A stood at 166 in January 1984.

P-3C

ORION

Mission: Detect, classify, localize, track, and destroy enemy high performance submarines.

Description: The P-3C is a land-based anti-submarine patrol aircraft. It has advanced submarine detection sensors such as the Directional Frequency and Ranging (DIFAR) buoy and Magnetic Anomoly Detection (MAD) equipment. The avionics system is integrated by a general purpose digital computer that supports all of the tactical displays, monitors and automatically launches ordnance, and provides flight information to the pilots. In addition, the system coordinates navigation information and accepts sensor data inputs for tactical display and storage. The P-3C can carry a mixed payload of weapons internally and on wing pylons.

Characteristics:

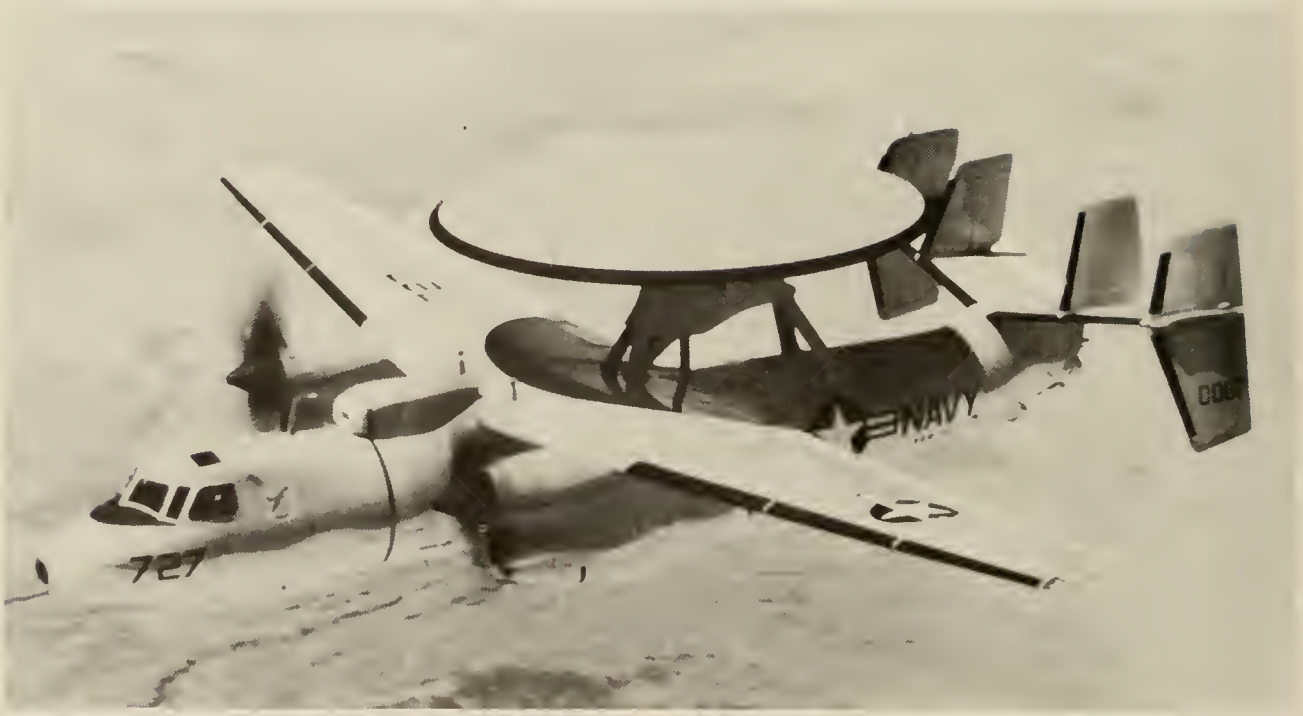
Length:	116 ft 3 in
Height:	37 ft 1 in
Wing Span:	99 ft 7 in
Weight:	67,486 lbs (empty) 142,000 lbs (gross)
Speed:	324 knots
Ceiling:	30,000 ft
Powerplant:	4 Allison T56-A14 turboshaft (4,910 HP each)
Crew:	10
Armament:	MK-46 torpedoes BULLPUP air-to-ground missile HARPOON (AGM 84) cruise missile Sonobuoys

Comments: The prime contractor for the ORION P-3C is Lockheed. The older versions of the aircraft are being updated to increase their capabilities to detect submarines. The navy's inventory of P-3Cs is 225 aircraft as of January 1984. The FY-1985 budget includes $465 million for advance procurement, spare parts and nine aircraft.

E-2C

HAWKEYE

Mission: Provide all-weather airborne early warning, and command and control functions for the carrier battle group. Other missions include surface surveillance coordination, strike and interceptor control, search and rescue coordination, and communications relay.



Description: The E-2C HAWKEYE is the United States Navy's all-weather carrier based tactical airborne warning and control system platform. The E-2C is an integral component of the carrier air wing, configured with three primary sensors; radar, IFF, and a passive detection system. These sensors are integrated with a general purpose computer which enables the E-2C to provide early warning, threat analyses, and control of counter action against air and surface targets. The E-2C is designed with the latest solid state electronics.

Characteristics:

Length:	57 ft 6 in
Height:	18 ft 3 in
Wing Span:	80.7 ft (wings expanded)
Weight:	52,500 lb (max take-off)
Speed:	270 knots (cruise)
Ceiling:	30,800 ft
Powerplant:	2-Allison T-56 A422 turboprops (4,591 shaft hp each)

Comments: The prime contractor is Grumman. The E-2C replaces the E-2B. The E-2C entered service with Early Warning Squadron VAW-123 at NAS Norfolk, Virginia in November 1973. E-2C production will continue into the late 1980s. The E-2C is being procured at a rate of six per year. The current inventory of HAWKEYEs is 73 as of January 1984, with 12 aircraft funded and undelivered.

AV-8B

HARRIER

Mission: The AV-8B is designed as a light attack close air support aircraft for ground forces.

Description: The AV-8B is a single engine, single crew member aircraft with a vertical/short takeoff and landing (V/STOL) capability. It was designed to provide increased responsiveness to ground forces through basing flexibility and high sortie rates.

Characteristics:

Length:	46 ft 4 in
Height:	11 ft 9 in
Wing Span:	30 ft 4 in
Weight:	12,500 lbs (empty) 29,750 lbs (maxium takeoff)
Speed:	Subsonic
Ceiling:	50,000 ft
Powerplant:	Pegasus F402-RR-406
Range:	Varies with mission and load
Armament:	1 25mm gun system, guided and conventional air-to-ground ordnance, SIDEWINDER missile

Comments: The AV-8B is built primarily by McDonnell Douglas Corporation with major contributions from British Aerospace. The Marine Corps plans to acquire approximately 328 aircraft. The January 1984 inventory is 6 aircraft with 18 funded but not yet delivered.

SH—60B

SEAHAWK LAMPS MK III

Mission: Extend the sensors and weapon systems capabilities of surface combatants for anti-submarine warfare, anti-ship surveillance, and targeting.

Description: The SEAHAWK is the air subsystem of the LAMPS MK III weapon system. LAMPS MK III is a computer-integrated ship/helicopter system. SEAHAWK LAMPS III increases the effectiveness of surface combatants by providing a remote platform for deployment of sonobuoys and torpedoes, processing of accoustic and Magnetic Anomaly Detection sensor information, and an elevated platform for radar and electronic support measures.

Characteristics:

Length:	64 ft 9 in (rotors turning)
Height:	11 ft 10 in
Rotor Diameter:	53 ft 8 in
Weight:	20,244 lbs
Speed:	130 knots
Crew:	3 (Pilot, Co-pilot and sensor operator)
Powerplant:	2 T700-GE-401 Turboshaft (1,543 shaft horsepower each)
Armament:	2 MK-46 Torpedoes

Comments: IBM is the weapons system contractor for the integrated LAMPS MK III system. Sikorsky Aircraft Division of United Technologies is the airframe builder. The LAMPS MK III is just entering the fleet. Five have been accepted for service, 66 more have been funded but not yet delivered. The FY 85 budget asks funding for 18 more SEAHAWKS.

SH-2F

SEASPRITE LAMPS MARK I

Mission: Extend and increase shipboard sensor and weapon capabilities against several types of enemy threats; notably submarines of all types, surface ships, and patrol craft that may be armed with anti-ship missiles.

Description: SEASPRITE is a ship-based anti-submarine and anti-ship surveillance and targeting helicopter. The SH-2F is equipped with a search radar, electronic support measures, magnetic anomaly detectors, and an acoustic data link. The helicopter also carries active and passive sonobuoys. Planned modifications include a new tactical navigation system and other improvements to the helicopters' combat systems.

Characteristics:

Length:	42 ft 7 in (rotors turning)
Height:	15 ft 6 in (rotors turning)
Powerplant:	2 GE T58-GE-8F Turboshafts (1,350 shaft horsepower each)
Speed:	130 knots
Crew:	3 (pilot, co-pilot, sensor operator)
Weight:	12,800 lbs (maximum take-off weight)
Armament:	2 MK-46 torpedoes

Comments: Prime Contractor: Kaman Aerospace Corporation. There are 2 aircraft in the current fleet inventory, with 42 more funded but not delivered. The FY 85 Budget request is for 6 SH-2Fs.

SH-3H

SEA KING

Mission: Detect, classify, track and destroy enemy submarines. The helicopter also provides logistic support and search and rescue capability while deployed aboard an aircraft carrier.

Description: The SH-3H is a twin engine, all-weather, ship-based anti-submarine helicopter. It is equipped with variable depth sonar, sonobuoys, data link, chaff and a tactical navigation system.

Characteristics:

Length:	72 ft 8 in (maximum)
Height:	15 ft 10 in (maximum)
Width:	62 ft
Speed:	144 knots
Ceiling:	10,800 ft
Powerplant:	2 T58-GE-10 Turboshaft engines (1,400 shaft horsepower each)

Comments: Sikorsky Aircraft Division of United Technologies Corp. is the prime contractor.

The current Navy inventory of SEA KINGs stands at 98 aircraft. There are no plans to procure any additional SEA KINGs.

C/MH-53E

SUPER STALLION

Mission: Movement of cargo, personnel, and the tactical recovery of downed or damaged aircraft. The lift of heavy, bulky equipment and supplies is achieved by external suspension from the helicopter.

Description: The CH-53E Super Stallion is a shipboard compatible helicopter with one rotor powered by three engines. It is an improved version of the H-53 series helicopters currently in service with the Navy and Marine Corps. The improvements include a third engine, an increased rotor diameter, seven vice six main rotor blades, upgraded main transmission, and increased lifting capability. It has provisions for external auxiliary fuel tanks, air-to-air refueling and hover-in-flight refueling. The MH-53E version is the Navy state-of-the-art airborne mine counter-measures aircraft.

Characteristics:

Length:	99 ft (rotors turning)
Width:	79 ft (rotors turning)
Height:	28 ft 5 in
Weight:	34,000 lbs (empty) 73,500 lbs (maximum gross weight)
Speed:	170 knots
Powerplant:	3 T64-GE-416 turboshaft (4,380 hp each)

Comments: Sikorsky Aircraft Division, United Technologies Corp., is the prime contractor. The fleet inventory of Super Stallions is 63 as of January 1984, with 20 more funded and undelivered.

C-4 and D-5

TRIDENT Strategic Missiles

Mission: Ensure the United States continues to possess a credible deterrent to nuclear war in the 1980s and beyond.

Description: The TRIDENT system was established to develop and deploy an improved missil-carrying nuclear submarine with a new long-range missile, to offset increasing strides in Soviet naval anti-submarine warfare capability. The TRIDENT strategic weapons system consists of the TRIDENT missile and its shipboard launcher and fire control, navigation, and missile instrumentation test and readiness subsystems.

The TRIDENT (C-4) missile is a three stage, solid propellant stellar inertial guided, submarine-launched, fleet ballistic missile. It has a range greater than the POSEIDON missile, thus providing a several-fold increase in the operational area of the United States submarine fleet. The TRIDENT is now deployed in the OHIO class TRIDENT submarines, as well as in 12 POSEIDON submarines which have been backfitted with the missile.

Characteristics:

Length:	34 ft
Diameter:	74 in
Weight:	Over 65,000 lbs
Propellant:	Solid—three powered stages
Guidance:	Stellar and inertial
Warhead:	Nuclear (MIRV)
Range:	4,000 nautical miles (nominal)

Comments: The TRIDENT missile was designed with the capability of being backfitted into existing POSEIDON equipped submarines. Increased range, without a commensurate increase in size over the POSEIDON missile, has been achieved through technological advances in propulsion, micro-electronics, and new weight-saving materials. The TRIDENT MK 5 guidance system performs all the functions of the all-inertial MK 3 POSEIDON guidance and includes a stellar inertial function to permit meeting comparable POSEIDON accuracy objectives at the longer TRIDENT missile range. When the TRIDENT D-5 missile becomes operational, it will be deployed in OHIO class submarines. The IOC for the D-5 missile is 1989.

BGM-109

TOMAHAWK Cruise Missile

Mission: Long range, subsonic cruise missile with a conventionally armed anti-ship version for anti-surface warfare, a conventionally armed land attack version and a nuclear armed land attack version.

Description: TOMAHAWK is under development as an all-weather submarine or surface combatant launched anti-ship or land attack cruise missile. After launch, a solid propellant rocket booster propels the missile until a small turbofan engine takes over for the cruise portion of the flight. The land attack version of TOMAHAWK has an inertial and terrain matching guidance system. The inertial guidance equipment is provided with the known location of the launch platform and the target immediately prior to launch. The guidance system then controls the missile on a preprogrammed flight path to the target. While flying over land, the terrain matching guidance uses a stored map reference to compare with the actual terrain. This determines the missile's position. If necessary, a course correction is then made to place the missile on course to the target. The anti-ship version has a modified HARPOON cruise missile guidance system. This permits TOMAHAWK to be fired and fly at low altitude in the general direction of an anemy warship to avoid radar detection. At a programmed distance, the missile begins an active radar search to seek out, acquire, and hit the target ship.

Characteristics:

Length:	18 ft 3 in 20 ft 6 in (with booster)
Diameter:	20.4 in
Weight:	3,200 lbs (with booster)
Range:	Over 250 NM (anti-ship version) 1,350 NM (land attack version, nuclear) Over 450 NM (land attack, conventional warhead)
Warhead:	1,000 lbs HE

Comments: TOMAHAWK is a highly survivable weapon against predicted hostile defense systems. Radar detection is difficult because the missile has a very small cross-section and flies at low altitude. Similarly, infrared detection is difficult because the turbofan engine emits a low level of heat. The anti-ship variant of TOMAHAWK uses a combined search radar and passive detection of enemy electronic radiation to detect a hostile ship at great range. The prime contractor for TOMAHAWK is General Dynamics.

GM-84 A/B/C or D

HARPOON Anti-Ship Cruise Missile

Mission: Medium range rocket boosted, turbo sustained cruise missile capable of being launched from surface ships, or submarines; or (without the booster) from aircraft. It is effective against hostile surface targets such as combatants, surfaced submarines, or other shipping.

Description: The HARPOON missile, GM-84, uses a solid-propellant boost from a variety of surface ship launcher configurations including TARTAR rail, ASROC cell, or deck mounted canisters. When launched from submerged submarines, a sealed capsule protects the HARPOON missile in the torpedo tube, and floats to the surface where booster iginition occurs, and the missile boosts from the capsule. Following surface or air launch, the HARPOON flys a programmed, low trajectory path to the target. In-flight attitude reference and mid-course guidance is provided by an onboard computer. Target acquisition is made by a self-contained active radar seeker. Terminal guidance uses the radar seeker, or passive homing in an ECM environment. Target destruction is accomplished by a 500 lb HE warhead with a contact fuse.

Characteristics:

	Ship/Submarine Launch	Air Launch
Length:	15 ft (w/booster)	12 ft 7 in
Diameter:	13.5 in (body)	Same
	38 in (fins extended)	36 in
	25 in (fins folded)	N/A
	21 in (encapsulated)	N/A
Weight:	1,450 lbs (w/booster)	1,160 lbs
Range:	70 nmi	Same
Warhead:	500 lbs (HE)	Same
Propulsion:	Solid propellant Booster	N/A
	CAE-JA02 Turbo sustainer	Same
Nomenclature:	RGM-84 (ship launch) UGM-84 (sub-launch)	AGM-84 (air launch)

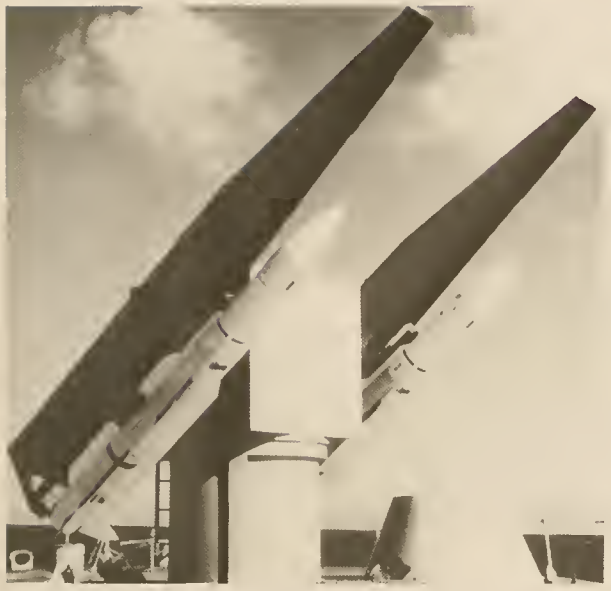
Comments: The HARPOON missile was introduced in the fleet on ships and submarines in 1977, and on the P-3 series aircraft in 1979. Recent upgrades to improve missile performance, trajectory shaping, and range have been introduced (Block 1C). The first major upgrade of the Ship Command Launch-Control System (AN/SWC-1A) is being tested (FY-84) to implement those missile improvements. The prime contractor is McDonnell Douglas Astronautics Co.

RIM-66/RIM-67 STANDARD 1 and 2

SURFACE Launch Missiles

Mission: Engage and intercept aircraft, anti-ship missiles and surface ships.

MR



ER

Description: STANDARD-1 (SM-1) and STANDARD-2 (SM-2), Medium Range (MR) and Extended Range (ER) missiles have a cylindrical airframe which tapers into a radome, four fixed dorsal fins and four independently movable steering control surfaces. Pertinent physical characteristics of the missile family are:

Characteristics:

	SM-1 MR	SM-2 MR	SM-1 ER	SM-2 ER
Length: Missile	176 in	185 in	314 in	314 in
Diameter: Booster	13.5 in	13.5 in	13.5 in	13.5 in
Diameter:	N/A	N/A	18 in	18 in
Weight:	1,380 lb	1,556 lb	2,880 lb	3,180 lb

Comments: STANDARD-1 (RIM-66) is a medium range (MR) surface launch missile employing passive or semi-active homing. It is propelled by an integral dual thrust rocket motor. SM-1 MR is installed on FFG, DDG, CG and CGN-class ships equipped with TARTAR and AEGIS combat systems. STANDARD-2 MR incorporates mid-course guidance allowing the missile to be launched on Search Radar information only. The missile is redirected in mid-flight and then again during the terminal homing phase. SM-2 MR will be installed on TARTAR DDG-993 and CGN class ships and on AEGIS CG and DDG class ships.

STANDARD-1 (RIM-67) is an extended range (ER) surface launch missile employing passive/semi-active homing or mid-course command guidance. It is propelled by a detachable rocket booster and integral sustainer rocket motor. SM-1 ER is installed on CGN, CG and DDG-37 class ships equipped with TERRIER combat systems. STANDARD-2 ER incorporates the same mid-course guidance as the MR version.

The FY 1985 budget request contained $706.6 million for all versions of STANDARD missiles.

RIM-7H/M

NATO SEASPARROW Surface-to-Air Missile

Mission: Provide a highly effective, fully automatic, lightweight, all weather quick reaction shipboard defense against aircraft, anti-ship missiles, and air launched weapons.

Description: The NATO SEASPARROW is a surface launch variant of the air launch SPARROW III air-to-air interceptor missile. It uses a radar homing guidance system, with target illumination provided by the shipboard MK-91 system radar director. NATO SEASPARROW is a second generation of the Basic Point Defense Surface Missile System employing an improved missile, when combined with the MK-23 TAS (Target Acquisition System) it becomes the Improved Point Defense System (IPDS) for U.S. Navy Ships.

Characteristics:

Length:	12 ft
Diameter:	8 in (body), 40 in (wing span)
Weight:	450 lbs
Warheads:	7H High explosive, continuous rod 7M Blast Fragmentation
Launcher capacity:	8 missiles

Comments: The NATO SEASPARROW system was cooperatively developed and produced by the Governments of Belgium, Denmark, Italy, Federal Republic of Germany, The Netherlands, Norway, Greece, Canada and the United States. The system is currently operational on about 80 ships of the eleven navies. The U.S. Navy's IPDS utilizing the RIM-7M missile will be operational on all aircraft carriers, AOR/AOEs and SPRUANCE-class destroyers. Additional upgrades are expected to keep this system current with new and emerging threats.

AIM-54A/C

PHOENIX Air-to-Air Missile

Mission: The PHOENIX missile, along with the AN/AWG-9 weapon control system of the F-14A aircraft, has the capability to destroy multiple hostile air targets with conventional warheads at great range in an all weather environment.

Description: The PHOENIX missile is an integral part of the F-14 AN/AWG-9 weapons system. The AN/AWG-9 is capable of long range tracking of multiple hostile air targets and launch of up to six missiles against six targets. The missile has great range and intercept capability against high speed, high and low altitude, maneuvering targets. The missile uses semiactive radar homing cruise phase guidance and active radar terminal guidance.

Characteristics:

Length:	156 in
Diameter:	15 in (body)
	36 in (wing span)
Weight:	1,000 lbs
Range:	Over 65 nautical miles
Warhead:	133 lbs HE (continuous rod)

Comments: The PHOENIX missile was introduced into the the fleet with the F-14A aircraft and AN/AWG-9 weapons control system in 1974. A program is currently underway to improve the reliability and capability of the missile. The AIM-54C program is involved in updating the missile to meet weapons threats of the 1990s which were not considered during the design of the original system. Hughes Aircraft Company is the prime contractor.

AGM-88A

HIGH SPEED Anti-Radiation Missile (HARM)

Mission: Air-to-surface missile designed to destroy or suppress enemy electronic emitters, especially those associated with radar sites used to direct anti-aircraft guns and surface-to-air missiles.

Description: HARM is an evolution of the SHRIKE and STANDARD ARM missiles. It has an improved wide-band frequency coverage in a single seeker head. The missile will be employed on A-7, A-6 and F/A-18 series Navy aircraft. The Air Force will also use the HARM missile.

Characteristics:

Length:	164 in
Diameter:	10 in
Weight:	796 lbs
Wing Span:	44 in
Guidance:	Passive radio frequency
Propulsion:	Solid fuel rocket

Comments: HARM is a joint Navy-Air Force program with the Navy as executive agency. The Department of Defense approved engineering development of the missile on March 1978. Operational evaluation has been completed on production representative missiles and the program received an approval for full production at DSARC III, March 83. Texas Instruments, Inc., is the prime contractor and is developing the guidance section, control section, and wings and fins.

AIM-7F/M

SPARROW III Air-to-Air Missile

Mission: The SPARROW III (AIM-7F) semi-active radar intercept missile is designed to give United States Navy fighter aircraft air superiority in a hostile environment.

Description: The SPARROW III is a primary weapon for use on F-4, F-14, F/A-18, and F-15 series aircraft. The missile has undergone several design changes since initial introduction in the Navy in the 1950s. AIM-7F was delivered for fleet use in 1976. The AIM-7M has recently completed testing and was delivered for fleet use in January 1983.

Characteristics:

Length:	12 ft
Diameter:	8 in (body) 40 in (wing span)
Weight:	510 lbs
Warhead:	7F High explosive continuous rod 7M Blast fragmentation warhead

Comments: The AIM-7F replaced the AIM-7E/E2 with increased performance, reliability, range, lethality, and countermeasures protection. The AIM-7M incorporated active fuze and seeker improvements to enhance performance particularly in the electronic countermeasures environment. Raytheon and General Dynamics are the two contractors for the SPARROW missile and control sections. Hercules produces the rocket motor.

AIM-9L/M

SIDEWINDER Air-to-Air Missile

Mission: The SIDEWINDER (AIM-9L/M) are infrared seeking short-range, dogfight missiles for United States, NATO, and allied aircraft for use against all hostile aircraft.

Description: The AIM-9L/M are the third and fourth generations of the SIDEWINDER family that was introduced to the Navy in the 1950s. The AIM-9L provides an all aspect launch capability, improved fuzing, a more effective warhead, increased maneuverability and lethality. The AIM-9M incorporates guidance improvements which greatly enhance performance in the counter-countermeasures environment and against background clutter. The AIM-9L/M are joint Navy and Air Force programs that provide both services with a common close-in dogfight missile. It is standard with Navy F-14, F-18 and F-4 fighter aircraft, and Air Force F-15 and F-16 fighter aircraft.

Characteristics:

Length:	9 ft 5 in
Diameter:	5 in (body)
	24 in (wing span)
Weight:	187 lbs
Warhead:	High explosive/annular blast fragmentation

Comments: The missile guidance and control section contractors are Raytheon and Aeronutronic Ford. The active optical target detection fuze is being manufactured by Santa Barbara Research Corp. The rocket motors are made by Hercules and Thiokol. The SIDEWINDER (AIM-9L) was delivered to the fleet in 1978. The AIM-9M was delivered to the fleet in 1982.

MK-15

PHALANX Close-In Weapon System (CIWS)

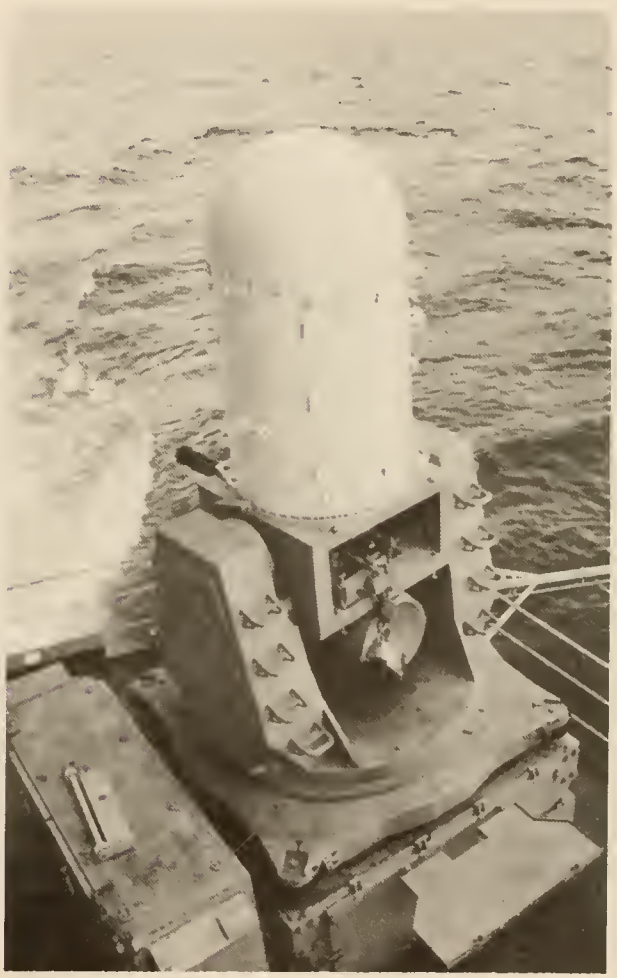
Mission: Provide ships of the United States Navy with a terminal defense against anti-ship cruise missiles which penetrate other fleet defenses.

Description: PHALANX is the United Stats Navy's first all-weather, automatic controlled gun system designed to provide defense against close-in sea-skimming cruise missiles which penetrate the outer defense systems. The main technical achievement of PHALANX is its closed-loop radar spotting and tracking ability. With closed-loop spotting, the fire control guidance system can simultaneously measure the location of both the threat target and the PHALANX's projectiles, and then automatically correct the aim of the gun onto the target. The gun is electrically controlled, hydraulically driven and provides a high rate of fire. The PHALANX system is self-contained and is readily installed on any ship from patrol boat to aircraft carrier.

Characteristics:

Weight:	12,500 lbs (complete system)
Gun:	M61A1 VULCAN (gatling-type)
Ammunition:	20mm with high density penetrating projectile
Capacity:	989 rounds in magazine
Firing rate:	3,000 rounds per minute

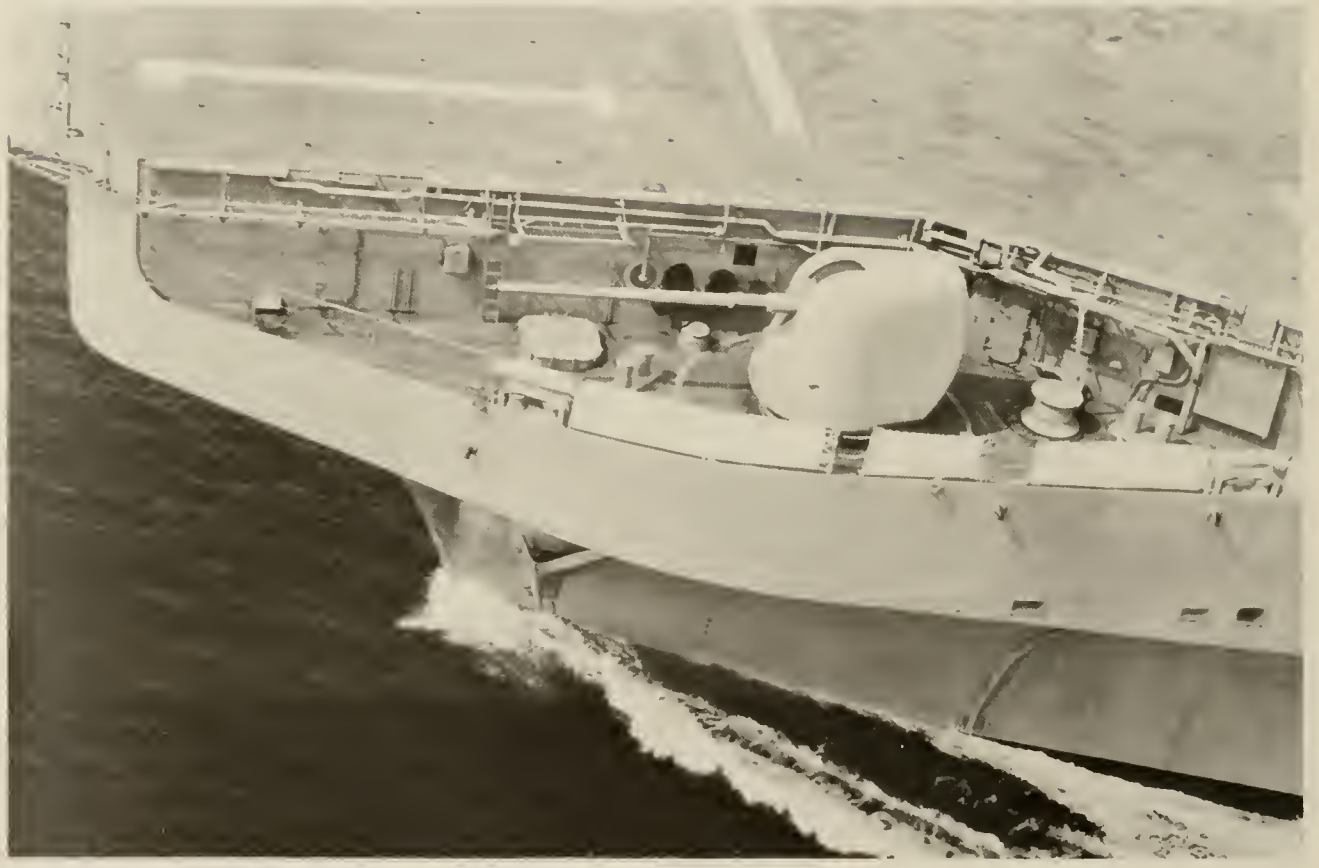
Comments: PHALANX is currently in production at the Pomona Division of General Dynamics, Pomona, California. Plans provided for units to be installed on about 300 ships, including the modernized battleships. PHALANX became operational in mid 1980 aboard USS ENTERPRISE (CVN-65).



MK-45

5"/54 cal Lightweight Gun

Mission: The 5"/54 cal (MK-45) lightweight gun provides surface combatants accurate naval gunfire against fast, highly maneuverable surface targets, air threats, and shore targets during amphibious operations.



Description: The MK-45 is a fully automatic lightweight gun that fires 5"/54 cal ammunition at a rate of 16 to 20 rounds per minute. It was designed primarily for installation onboard CGN-36/38, DD-963, LHA-1, and CG-47 class ships. This lightweight gun system offers significant improvements in reliability and maintainability over 5"/54 cal MK-42 gun systems. The MK-45 is controlled by the MK-86 Gun Fire Control System.

Comments: Deliveries of the MK-45 Lightweight Gun System began in 1971, and will continue through the 1990's for CG-47 and the DDG-51 classes.

MK-75

76mm/62 cal Gun System

Mission: Provide frigates, hydrofoils, and other combatants with a fast-reaction lightweight rapid-fire gun to counter aircraft, cruise missiles, and surface ships.

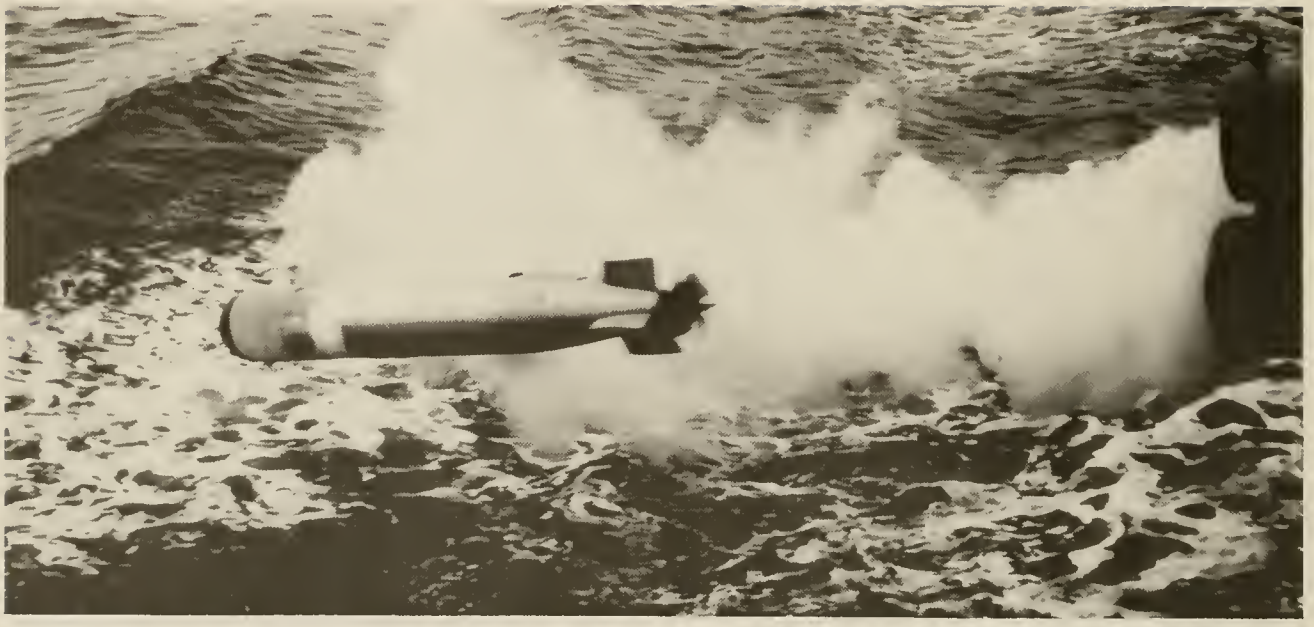
Description: The MK-75 is a United States produced variant of the 76mm/62 cal compact gun system designed by OTO Melara, Italy. It is a single barrel, lightweight, water-cooled, rapid fire, remote controlled, dual purpose automatic, enclosed naval gun mount. Extensive use of aluminum alloy and pressure molded fiberglass shields are used to achieve a lighter weight.

Comments: Technical and operational evaluation of the gun system was conducted at sea on USS TALBOT (FFG-4). The MK-75 was provisionally approved for service use in September 1975, subject to final test of a United States produced gun in FFG-7 class ships during follow-on test and evaluation. The Northern Ordnance Division of FMC Corporation was chosen in competitive procurement to manufacture the MK-75 gun mount. Because of performance, light weight, and low manning requirements, the MK-75 is suited for installation on small combatants. Current usage includes one gun mount each for FFG-7 and PHM-1 class Navy ships, and one gun mount each for the WHEC-378 Class and the new construction WMEC-270 Class Coast Guard Cutters. The first United States produced gun mount was delivered in August 1978.

MK-46

ANTI-SUBMARINE TORPEDO

Mission: The MK-46 is an acoustic homing torpedo designed to destroy conventional and nuclear submarines.



Description: The MK-46 torpedo is designed for launching from surface combatant torpedo tubes, ASROC (anti-submarine rocket) missiles, and fixed and rotary wing aircraft. ASROC, with the MK-46 torpedo and rocket booster, is a primary anti-submarine weapon with United States Navy surface combatants. The MK-46 is capable of higher speed, longer range, deeper depth operation, and better acoustic performance than its predecessor, the MK-44. In the active homing mode, the torpedo transmits an acoustic pulse and analyzes return signals. In the passive mode, a target is acquired by processing target-originated noise. If a target is not acquired in the passive mode, the torpedo converts to the active mode.

Characteristics:

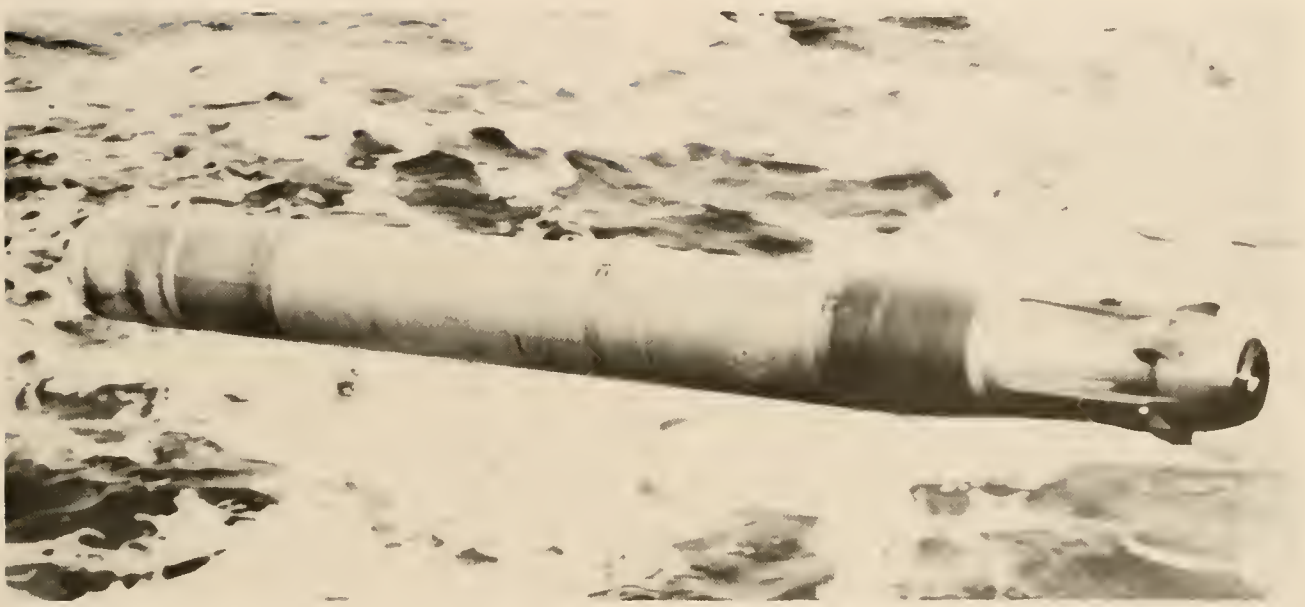
Length:	8 ft 6 in 14 ft 9 in (with ASROC booster)
Diameter:	12.75 in
Weight:	508 lbs 1,073 lbs (with ASROC booster)
Warhead:	100 lbs high explosive
Propulsion:	Twin counter-rotating props, liquid fueled. Rocket booster with ASROC

Comments: The MK-46 torpedo was produced by Aerojet General, Honeywell, Inc., and the Naval Ordnance Plant, Forest Park, Illinois starting in 1963. Production procurement of the MK-46 Mod 5, from Honeywell, Inc., is planned through 1989. Alteration kits are being procured to convert existing Mod's 1 and 2 to Mod's 4 and 5. The MK-46 Mod 4 torpedo is the weapon portion of the CAPTOR (encapsulated torpedo) mine which is currently being integrated into the fleet.

MK-48

TORPEDO

Mission: Enable United States submarines to sink hostile surface ships or submarines in the presence or absence of torpedo countermeasures.



Description: The MK-48 is a long-range, high-speed, deep depth, wire-guided, acoustic homing torpedo designed to combat fast, deep diving nuclear submarines and high performance surface ships. It replaces both the MK-37 and MK-14 torpedoes in anti-submarine and anti-ship roles. The MK-48 can operate without wire command guidance and it can use active and/or passive homing. When launched, the torpedo executes target search, acquisition and attack procedures. If it misses the target, it will execute multiple reattacks. The MK-48 has been operational in the United States Navy since 1972. An Advanced Capabilities modification (ADCAP) to the current MK-48 is under development. ADCAP modified MK-48's will have increased effectiveness in adverse environment against both quiet, deep-diving, high-speed submarines and surface ships.

Characteristics:

Length:	19 ft 2 in
Diameter:	21 in
Weight:	3,600 lbs
Propulsion:	Positive displacement piston engine
Guidance:	Gyro, wire
Homing:	Active, passive, combination acoustic

Comments: The dual-purpose MK-48 torpedo is carried by all classes of United States submarines. It is replacing older submarine-launched anti-submarine and anti-ship torpedoes and is the primary submarine launched anti-submarine weapon in the fleet. Strategic missile submarines carry the MK-48 as a self-defense weapon.

MK-68

Fire Control System

Mission: Provide frigate, destroyer, and cruiser-sized surface combatants with a dual-purpose fire control system effective against air and surface targets including targets ashore.

Description: The MK-68 control system consists of a manned, topside director, a conical-scan acquisition and tracking radar, an analog computer that solves the target-motion and gun-ballistics equations, and a stabilization unit. In production for over twenty-five years, several variants exist including a Digital Upgrade modification installed in limited quantities after 1975 and continuing into 1985.

Comments: Over 80 systems will continue in active service into the 1990's and many beyond that time. The hardware and software architecture of the computing system within the Digital Upgrade variant has evolved further into the fire control computing system (gun) to be installed in the Navy's newest class of destroyers, the USS ARLEIGH BURKE DDG-51 Class.

The MK-68 system also serves in the Australian and the Spanish navies.

MK-86

Fire Control System

Mission: Provide ships of destroyer size and larger with an economical, versatile, lightweight, gun and missile fire control system which is effective against surface and air targets.

Description: The MK-86 fire control system is a substantial improvement over the earlier MK-68 system that was developed following World War II. It uses a track-while-scan radar coupled with a digital computer. The MK-86 system was developed from a 1963 Navy requirement to provide new construction ships with an improved surface-to-surface gun-fire control capability. Subsequent requirements added an anti-air and self-defense missile control capability. Electro-optics sensor augmentation, to complement the radar sensors for tracking guided projectiles, is being incorporated in the latest modification to the MK-86 system.

Comments: MK-86 systems have been purchased for installation at Navy training sites and onboard recent construction and conversion destroyers, cruisers, and TARAWA class amphibious assault ships. The Navy purchased additional systems for the new TICONDEROCA class (AEGIS) cruiser and selected guided missile destroyers. Lockheed Electronics Company developed and is manufacturing the MK-86.

MK-92

Fire Control System

Mission: Provide FFG-7 class frigates and other surface combatants with a fast-reaction, high firepower, all weather weapons control system for use against air and surface targets.

Description: The MK-92's surface and air surveillance capability gives highly accurate gun and missile control against air and surface targets. It is an American produced variant of the WM-25/28 system designed in The Netherlands. The Mod 1 version can track one air or surface target using the monopulse tracker; and two surface or shore targets using track-while-scan data from the Combined Antenna System (CAS). The Mod 2 version can track an additional air or surface target using the Separate Track Illuminating Radar (STIR).

Comments: The MK-92 fire control system was approved for service use in 1975. Fleet introduction and follow-on test and evaluation began in 1980. The system is installed in FFG-7 class Guided Missile frigates, PHM-1 class Patrol Combatant-Missile (Hydrofoil) ships, the new WMEC-901 class Coast Guard Medium Endurance Cutters and the WHEC (Hamilton Class) High Endurance Cutters after mid-life upgrade. Sperry Defense Electronic Division of Sperry Corporations is the exclusive licensee for United States manufacture.

U.S NAVY SHIP CLASSIFICATIONS

Classification symbols, as shown in the accompanying list, are used in the official designation of U.S. Navy ships and craft. For example, USS SAN DIEGO (AFS 6) is a Combat Store Ship, symbol AFS, serial number 6, named "San Diego."

Classification symbols are not painted on the hulls of combatant ships; only the ships' serial numbers appear. For example, USS LAFAYETTE (SSBN 616) has only the number, "616," painted on her conning tower.

Abbreviated classification symbols are painted on the hulls of auxiliary ships. For example, the initial letter "A" is usually omitted on the hull designation; "FS6" is used instead of "AFS 6" on the hull of USS SAN DIEGO (AFS 6).

AALC	Amphibious Assault Landing Craft
AD	Destroyer Tender
AE	Ammunition Ship
AF	Store Ship
AFDB	Large Auxiliary Floating Dry Dock (non-self-propelled)
AFDL	Small Auxiliary Floating Dry Dock (non-self-propelled)
AFDM	Medium Auxiliary Floating Dry Dock (non-self-propelled)
AFS	Combat Store Ship
AG	Miscellaneous
AGDS	Auxiliary Deep Submergence Support Ship
AGEH	Hydrofoil Research Ship
AGF	Miscellaneous Command Ship
AGFF	Frigate Research Ship
AGM	Missile Range Instrumentation Ship
AGOR	Oceanographic Research Ship
AGOS	Ocean Surveillance Ship
AGP	Patrol Craft Tender
AGS	Surveying Ship
AGSS	Auxiliary Research Submarine
AH	Hospital Ship
AK	Cargo Ship
AKR	Vehicle Cargo Ship
AO	Oiler
AOE	Fast Combat Support Ship
AOG	Gasoline Tanker
AOR	Replenishment Oiler
AOT	Transport Oiler
AP	Transport
APB	Self-propelled Barracks Ship
APL	Barracks Craft (non-self-propelled)
AR	Repair Ship
ARC	Cable Repairing Ship
ARD	Auxiliary Repair Dry Dock (non-self-propelled)
ARDM	Medium Auxiliary Repair Dry Dock (non-self-propelled)
ARS	Salvage Ship
AS	Submarine Tender
ASR	Submarine Rescue Ship
ATA	Auxiliary Ocean Tug
ATC	Mini-armored Troop Carrier
ATF	Fleet Ocean Tug
ATS	Salvage and Rescue Ship
AVM	Guided Missile Ship
AVT	Auxiliary Aircraft Landing Training Ship
BB	Battleship
CA	Heavy Cruiser
CG	Guided Missile Cruiser
CGN	Guided Missile Cruiser (nuclear propulsion)
CV	Aircraft Carrier
CVN	Attack Aircraft Carrier (nuclear propulsion)
CVS	ASW Aircraft Carrier
DD	Destroyer
DDG	Guided Missile Destroyer
DSRV	Deep Submergence Rescue Vehicle
DSV	Deep Submergence Vehicle
FF	Frigate
FFG	Guided Missile Frigate
IX	Unclassified Miscellaneous
LCAC	Landing Craft Air Cushion
LCC	Amphibious Command Ship
LCM	Landing Craft, Mechanized
LCPL	Landing Craft, Personnel, Large
LCU	Landing Craft, Utility
LCVP	Landing Craft, Vehicle, Personnel
LHA	Amphibious Assault Ship (general purpose)
LHD	Amphibious Assault Ship (multi-mission)
LKA	Amphibious Cargo Ship
LPA	Amphibious Transport
LPD	Amphibious Transport Dock
LPH	Amphibious Assault Ship
LSD	Landing Ship Dock
LSSC	Light SEAL Support Craft

LST	Landing Ship Tank
LWT	Amphibious Warping Tug
MCM	Mine Countermeasures Ship
MSB	Minesweeping Boat
MSD	Minesweeping, Drone
MSH	Minesweeper Hunter
MSI	Minesweeper, Inshore
MSM	Minesweeper, River (converted LCM-6)
MSO	Minesweeper, Ocean (nonmagnetic)
MSR	Minesweeper, Patrol
MSSC	Medium SEAL Support Craft
NR	Submersible Research Vehicle
PB	Patrol Boat
PBR	River Patrol Boat
PCF	Patrol Craft (fast)
PG	Patrol Combatant
PGH	Patrol Gunboat (hydrofoil)
PHM	Patrol Combatant Missile (hydrofoil)
PTF	Fast Patrol Craft
SDV	Swimmer Delivery Vehicle
SLWT	Side Loading Warping Tug
SS	Submarine
SSBN	Fleet Ballistic Missile Submarine (nuclear propulsion)
SSG	Guided Missile Submarine
SSN	Attack Submarine (nuclear propulsion)
SWCL	Special Warfare Craft, Light
SWCM	Special Warfare Craft, Medium
YAG	Miscellaneous Auxiliary
YBD	Bowdock
YC	Open Lighter (non-self-propelled)
YCF	Car Float (non-self-propelled)
YCV	Aircraft Transportation Lighter (non-self-propelled)
YD	Floating Crane (non-self-propelled)
YDT	Diving Tender (non-self-propelled)
YF	Covered Lighter (self-propelled)
YFB	Ferryboat or Launch (self-propelled)
YFD	Yard Floating Dry Dock (non-self-propelled)
YFN	Covered Lighter (non-self-propelled)
YFNB	Larger Covered Lighter (non-self-propelled)
YFND	Dry Dock Companion Craft (non-self-propelled)
YFNX	Light (special purpose) (non-self-propelled)
YFP	Floating Power Barge (non-self-propelled)
YFR	Refrigerated Covered Lighter (self-propelled)
YFRN	Refrigerated Covered Lighter (non-self-propelled)
YFRT	Covered Lighters (range-tender) (self-propelled)
YFU	Harbor Utility Craft (self-propelled)
YG	Garbage Lighter (self-propelled)
YGN	Garbage Lighter (non-self-propelled)
YHLC	Salvage Lift Craft, Heavy (non-self-propelled)
YM	Dredge (self-propelled)
YNG	Gate Craft (non-self-propelled)
YO	Fuel Oil Barge (self-propelled)
YOG	Gasoline Barge (self-propelled)
YOGN	Gasoline Barge (non-self-propelled)
YON	Fuel Oil Barge (non-self-propelled)
YOS	Oil Storage Barge (non-self-propelled)
YP	Patrol Craft (self-propelled)
YPD	Floating Pile Driver (non-self-propelled)
YR	Floating Workshop (non-self-propelled)
YRB	Repair and Berthing Barge (non-self-propelled)
YRBM	Repair, Berthing, and Messing Barge (non-self-propelled)
YRDM	Floating Dry Dock Workshop (machine) (non-self-propelled)
YRR	Radiology Repair Barge (non-self-propelled)
YRST	Salvage Craft Tender (non-self-propelled)
YSD	Seaplane Wrecking Derrick (self-propelled)
YSR	Sludge Removal Barge (non-self-propelled)
YTB	Large Harbor Tug (self-propelled)
YTL	Small Harbor Tug (self-propelled)
YTM	Medium Harbor Tug (self-propelled)
YW	Water Barge (self-propelled)
YWM	Water Barge (non-self-propelled)

Reprinted courtesy of Naval Surface Weapons Center, White Oak, Maryland.

ACTIVE FLEET, NAVAL RESERVE FORCE AND NAVAL AUXILIARY FLEET SHIPS

1 MARCH 1984

ACTIVE FLEET

AIRCRAFT CARRIERS		
(NUCLEAR POWER)		
NIMITZ CLASS		3
ENTERPRISE CLASS		1
(CONVENTIONAL POWER)		
JOHN F. KENNEDY CLASS		1
KITTY HAWK CLASS		3
FORRESTAL CLASS		3
MIDWAY CLASS		2
	AIRCRAFT CARRIER TOTAL	13
BATTLESHIPS		
IOWA CLASS		1
CRUISERS		
(NUCLEAR POWER)		
VIRGINIA CLASS		4
CALIFORNIA CLASS		2
TRUXTON CLASS		1
BAINBRIDGE CLASS		1
LONG BEACH CLASS		1
(CONVENTIONAL POWER)		
TICONDEROGA CLASS		1
JOSEPHUS DANIELS CLASS		8
BELKNAP CLASS		1
LEAHY CLASS		9
	CRUISER TOTAL	28
DESTROYERS		
(GUIDED MISSILE)		
FARRAGUT CLASS		10
CHARLES ADAMS CLASS		23
KIDD CLASS		4
(CONVENTIONAL)		
SPRUANCE CLASS		31
	DESTROYER TOTAL	68
FRIGATES		
(GUIDED MISSILE)		
OLIVER HAZARD PERRY CLASS		35
BROOKE CLASS		6
(CONVENTIONAL)		
KNOX CLASS		40
GLOVER CLASS		1
GARCIA CLASS		10
BRONSTEIN CLASS		2
	FRIGATE TOTAL	94
	SURFACE COMBATANT —TOTAL	191

ATTACK SUBMARINES	
(NUCLEAR POWER)	
LOS ANGELES CLASS	26
LIPSCOMB CLASS	1
NARWHAL CLASS	1
STURGEON CLASS	37
ETHAN ALLEN CLASS	3
GEORGE WASHINGTON CLASS	2
TULLIBEE CLASS	1
PERMIT CLASS	13
SKIPJACK CLASS	5
SKATE CLASS	4
SEAWOLF CLASS	1
(DIESEL ELECTRIC)	
BARBEL CLASS	3
DARTER CLASS	1
ATTACK SUBMARINE TOTAL	98
PATROL COMBATANT SHIPS	
PATROL COMBATANT-MISSILE	
PEGASUS (HYDROFOIL) CLASS	6
AMPHIBIOUS WARFARE SHIPS	
AMPHIBIOUS ASSAULT	
TARWARA CLASS	5
IWO JIM CLASS	7
AMPHIBIOUS TRANSPORT DOCK	
AUSTIN CLASS	11
RALEIGH CLASS	2
AMPHIBIOUS CARGO SHIP	
CHARLESTON CLASS	5
LANDING SHIP DOCK	
ANKORAGE CLASS	5
THOMASTON CLASS	6
LANDING SHIP TANK	
NEWPORT CLASS	18
AMPHIBIOUS COMMAND SHIP	
BLUE RIDGE CLASS	2
AMPHIBIOUS WARFARE SHIP TOTAL	61
UNDERWAY REPLENISHMENT SHIPS	
AMMUNITION SHIP	
KILAUEA CLASS	7
NITRO CLASS	3
SURIBACHI CLASS	2
COMBAT STORES SHIP	
MARS CLASS	7
FAST COMBAT SUPPORT SHIP	
SACRAMENTO CLASS	4
REPLENISHMENT OILER	
WICHITA CLASS	7
OILER	
CIMARRON CLASS	5
ASHTABULA CLASS	2
UNDERWAY REPLENISHMENT SHIP TOTAL	37

MATERIAL SUPPORT SHIPS	
DESTROYER TENDER	
SAMUEL GOMPERS CLASS	2
YELLOWSTONE CLASS	4
DIXIE CLASS	3
REPAIR SHIP	
VULCAN CLASS	4
SUBMARINE TENDER	
EMORY S. LAND CLASS	3
L Y SPEAR CLASS	2
SIMON LAKE CLASS	2
HUNLEY CLASS	2
PROTEUS CLASS	1
FULTON CLASS	2
MATERIAL SUPPORT SHIP TOTAL	25
FLEET SUPPORT SHIPS	
SALVAGE SHIP	
BOLSTER CLASS	5
SUBMARINE RESCUE SHIP	
PIGEON CLASS	2
SALVAGE AND RESCUE SHIP	
EDENTON CLASS	3
FLEET SUPPORT SHIP TOTAL	14
MINEWARFARE SHIPS	
MINESWEEPERS	3
OTHER AUXILIARIES	
DEEP SUBMERGENCE SUPPORT	
USS POINT LOMA	1
COMMAND SHIPS	
USS LA SALLE	1
USS CORONADO	1
GUIDED MISSILE SHIP	
USS NORTON SOUND	1

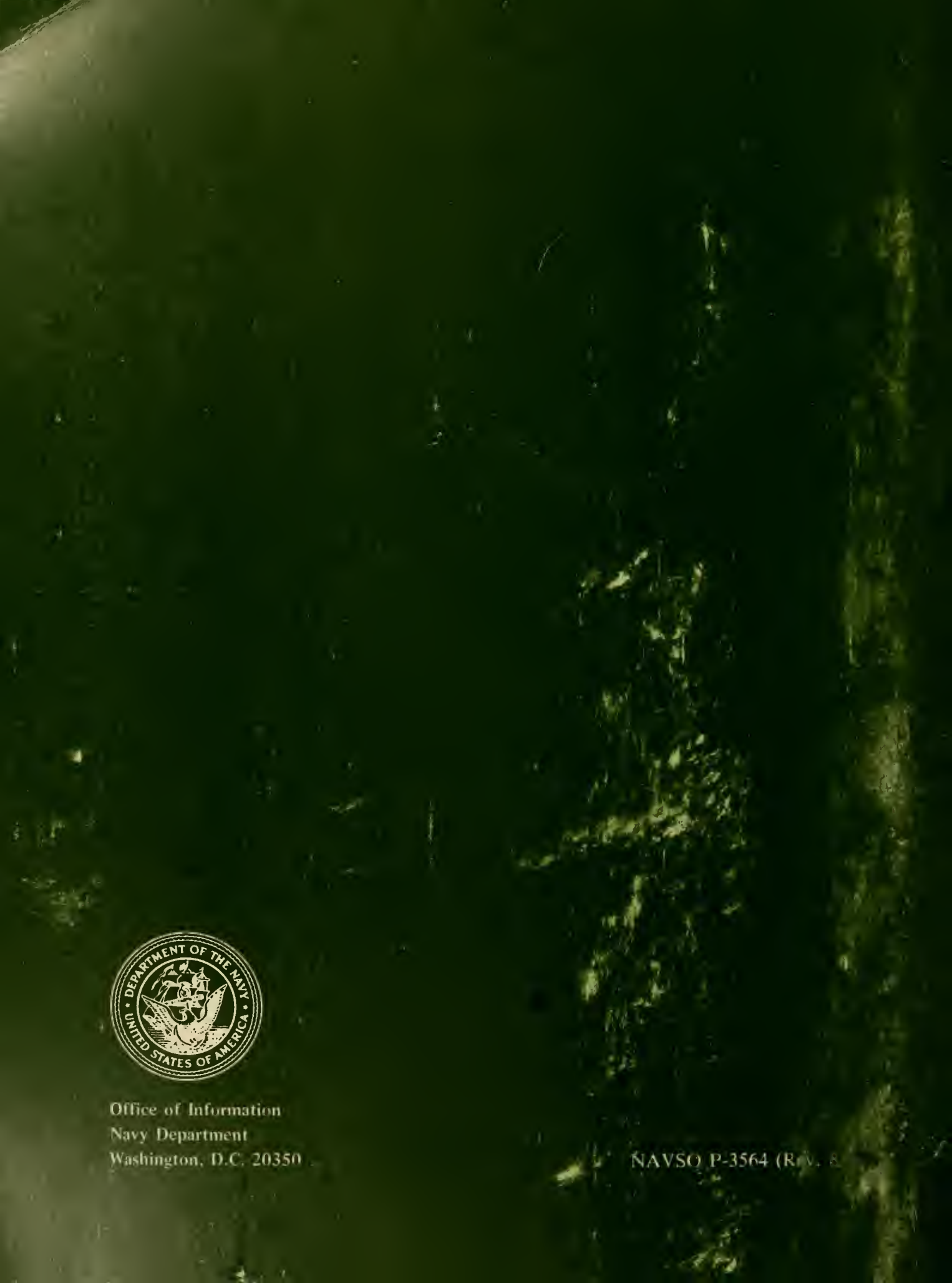
NAVAL RESERVE FORCE (NRF)

DESTROYERS	
DD-945 (HULL) CLASS	1
DESTROYER TOTAL	1
FRIGATES	
FFG-7 (PERRY) CLASS	1
FF-1052 (KNOX) CLASS	6
FRIGATE TOTAL	7
AMPHIBIOUS WARFARE SHIPS	
LST-1179 CLASS LANDING SHIP TANK	2
AMPHIBIOUS SHIP TOTAL	2
MINEWARFARE SHIPS	
MSO-422 (AGRESSIVE) CLASS	16
MSO-508 (ACME) CLASS	2
MINEWARFARE TOTAL	18

FLEET SUPPORT SHIPS	
ATF-148 CLASS FLEET OCEAN TUG	2
ATF-96 CLASS FLEET OCEAN TUG	2
ARS-6 CLASS SALVAGE SHIP	1
ARS-38 CLASS SALVAGE SHIP	1
FLEET SUPPORT SHIP TOTAL	6
TOTAL NAVAL RESERVE FORCE	34
TOTAL ACTIVE	489
TOTAL NRF	34
TOTAL	523

NAVAL FLEET AUXILIARY FORCE SHIPS (CIVIL SERVICE MANNED)

UNDERWAY REPLENISHMENT SHIPS	16
FLEET SUPPORT SHIPS (ATF-166 CLASS ATF)	7
OTHER AUXILIARIES	18
TOTAL NAVAL FLEET AUXILIARY	41



Office of Information
Navy Department
Washington, D.C. 20350

NAVSO P-3564 (Rev. 8